

# **Comprehensive Transportation Plan Warren County**



**March, 2010**





# **Warren County Comprehensive Transportation Plan Technical Report**

Prepared by the:

Transportation Planning Branch  
North Carolina Department of Transportation

In Cooperation with:

The County of Warren  
Town of Macon  
Town of Norlina  
Town of Warrenton  
Kerr-Tar Rural Planning Organization  
The Federal Highway Administration  
U.S. Department of Transportation

**March, 2010**

**Scott Walston, P.E.**





# **Acknowledgments**

## **Persons responsible for this report:**

Project Engineer:

Mark Eatman, E.I.

Triangle Planning Group Supervisor:

Scott Walston, P.E.



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# 1. Introduction

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The transportation system is a region's lifeline. This system provides a means of transporting people and goods from one place to another quickly, conveniently, and safely, thereby contributing to its economic prosperity and social well being. A well-planned system should meet the existing travel demands and keep pace with the growth of the region. In January 2003, Warren County and its municipalities recognized the importance of planning for future transportation needs. In April 2005, they requested transportation planning assistance from the Transportation Planning Branch of the North Carolina Department of Transportation (NCDOT) to develop a Comprehensive Transportation Plan (CTP).

Warren County is located in the north central region of North Carolina. It is bordered on the north by the State of Virginia, on the east by Halifax and Northampton Counties, on the south by Franklin and Nash Counties, and on the west by Vance County. The geographical location of the Warren County Planning Area is shown in **Figure 1**.

Warren County is a rural county, with most of its population living in communities no larger than 1500 people (inclusive of the three incorporated municipalities). The predominant source of revenue for its economy is agriculture. The outpouring of development from the Triangle area has caused an increase in residential development, especially from the south where Franklin County is located.

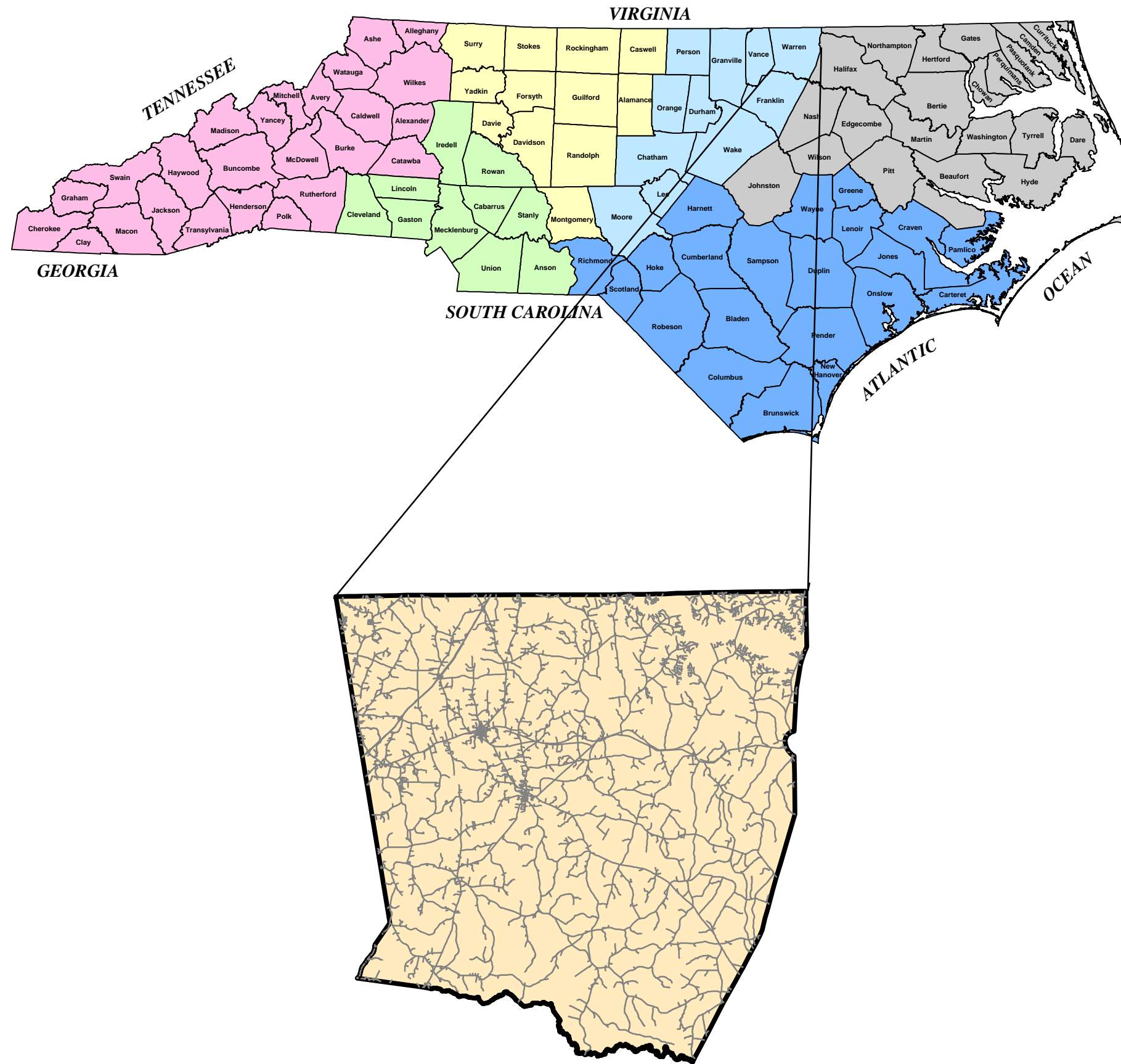
This report documents the development of the 2008 Warren County Comprehensive Transportation Plan as shown in **Figure 2, sheets 1-4**. In addition, this report presents recommendations for each mode of transportation. A CTP is developed to ensure that the progressively developed transportation system will meet the needs of the region. The CTP will serve as an official guide to providing a well-coordinated, efficient, and economical transportation system for the future of the region. This document may be utilized by the local officials to ensure that planned transportation facilities reflect the needs of the public, while minimizing the disruption to local residents, businesses, and the environment. The purpose of this study is to examine present and future transportation needs of the region and to develop a CTP that meets these needs. The CTP recommends those improvements that are necessary to provide an efficient transportation system for the 2005-2035 planning period.

Initiative for the implementation of the CTP rests predominately with the policy boards and citizens of the planning area. The responsibility for implementing those recommendations is shared by Warren County, the municipalities in Warren

County and the North Carolina Department of Transportation. The transportation needs throughout the state exceed available funding; therefore, it is imperative that the county aggressively pursue funding for desired projects.

The recommended improvements are based on existing conditions and projected traffic volumes and have been coordinated with the County officials. The typical cross-sections used for the CTP are outlined in Appendix D.

It is possible that actual growth patterns will differ from those anticipated. As a result, it may be necessary to accelerate or delay the development of some recommendations found on this plan. Some portions of the plan may require revisions in order to accommodate unexpected changes in urban development. Therefore, any changes made to one element of the CTP should be consistent with the other elements.



**FIGURE 1**  
**GEOGRAPHIC**  
**LOCATION**

**LEGEND**

**PLANNING REGIONS**

- METROLINA
- MOUNTAINS
- NORTHEAST
- SOUTHEAST
- TRIAD
- TRIANGLE

**WARREN COUNTY**  
**NORTH CAROLINA**



PREPARED BY THE  
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
TRANSPORTATION PLANNING BRANCH

IN COOPERATION WITH THE  
U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

BASE MAP DATE: OCTOBER 2005

## Adopted by:

### Warren County

Date: November 5, 2007

### Town of Warrenton

Date: November 12, 2007

### Town of Norlina

Date: April 7, 2008

### Town of Macon

Date: October 9, 2007

### NCDOT

Date: June 6, 2008

## Endorsed by:

### Kerr-Tar Rural Planning Organization

Date: March 17, 2008

## Recommended by

### Transportation Planning Branch

Date: April 7, 2008

## NOTES:

Format for Sheet 5 Pedestrian map is pending and is not included in this report.

VA

Northampton  
Co.

Norlina

Macon

Warrenton

Franklin Co.

Vance Co.

Nash Co.

Halifax Co.



# WARREN COUNTY

## FIGURE 2

### Comprehensive Transportation Plan

Plan date: November 20, 2007







Sheet 1 **Adoption Sheet**

Sheet 2 **Highway Map**

Sheet 3 **Public Transportation  
and Rail Map**

Sheet 4 **Bicycle Map**

### Legend

-  CountyBoundary\_polys
-  Schools
-  Railroad
-  Roads
-  Municipal Limits
-  Streams, Lakes

0 0.5 1 2 3 Miles

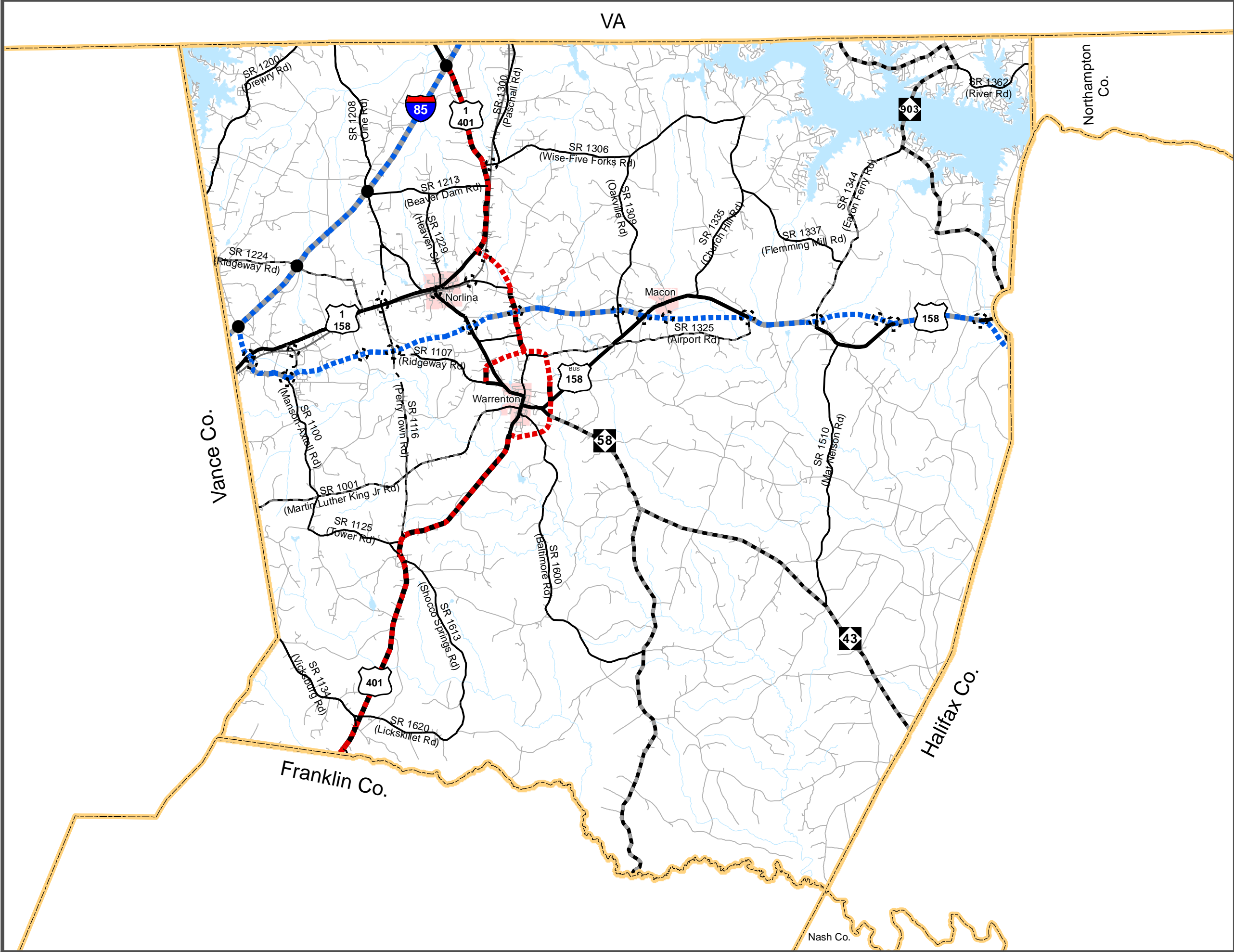
Sheet 1 of 4

Base map date: June 2005

Refer to CTP document for more details







Highway Map



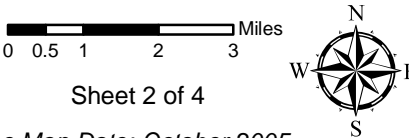
WARREN COUNTY

Comprehensive  
Transportation Plan

Plan date: November 20, 2007

- Freeways
- Existing
  - Needs Improvement
  - Recommended
- Expressways
- Existing
  - Needs Improvement
  - Recommended
- Boulevards
- Existing
  - Needs Improvement
  - Recommended
- Other Major Thoroughfares
- Existing
  - Needs Improvement
  - Recommended
- Minor Thoroughfares
- Existing
  - Needs Improvement
  - Recommended

- Existing Interchange
- Proposed Interchange
- Existing Grade Separation
- Proposed Grade Separation



Public Transportation  
and Rail Map



WARREN COUNTY

Comprehensive  
Transportation Plan

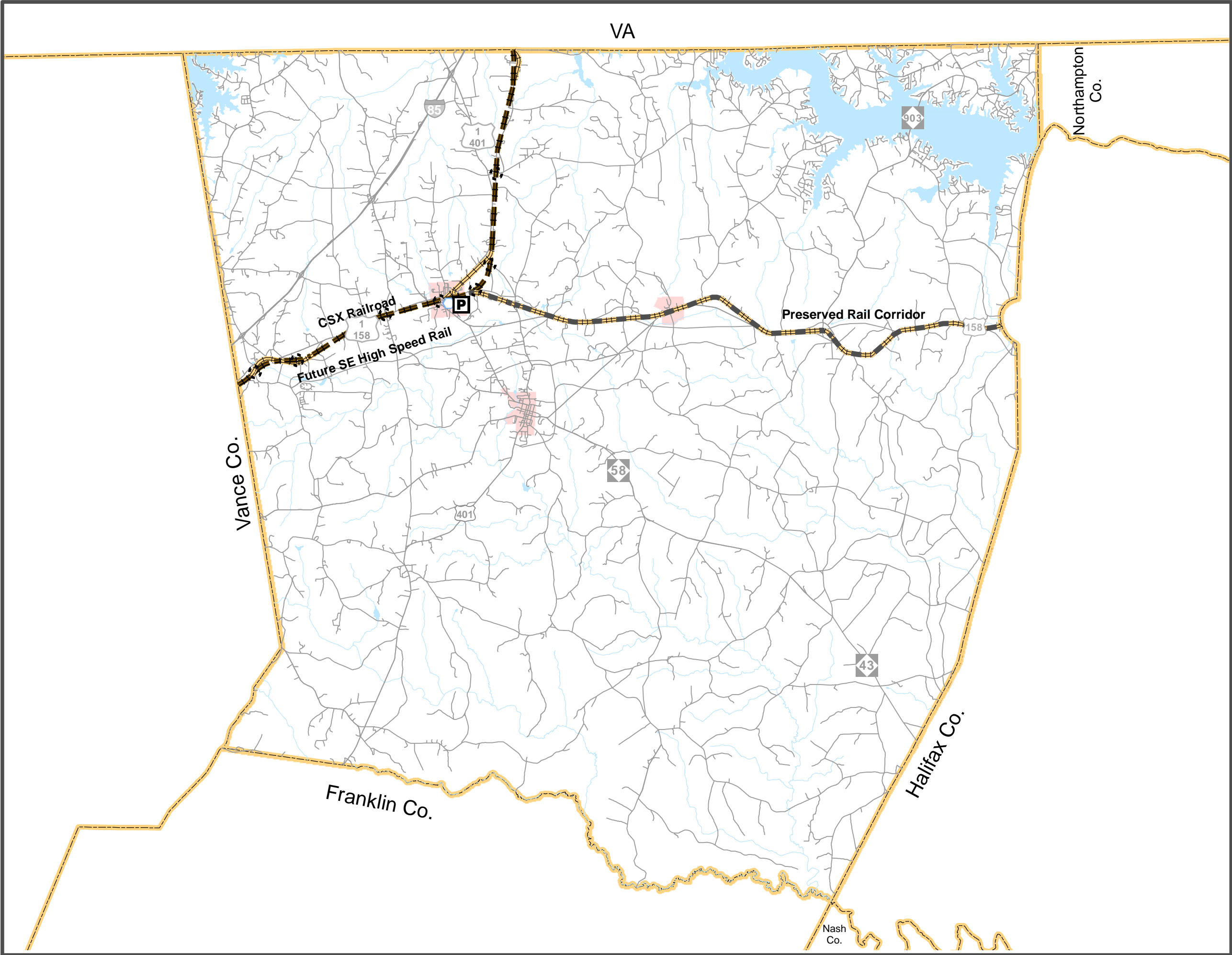
Plan date: November 20, 2008

- Bus Routes
- Existing
  - Needs Improvement
  - Recommended
- Fixed Guideway
- Existing
  - Needs Improvement
  - Recommended
- Operational Strategies
- Existing
  - Needs Improvement
  - Recommended
- Rail Corridor
- Active
  - Inactive
  - Recommended
- High Speed Rail Corridor
- Existing
  - Recommended
- Rail Stops
- Existing
  - Recommended
- Intermodal Connector
- Existing
  - Recommended
- Park and Ride Lot
- Existing
  - Recommended

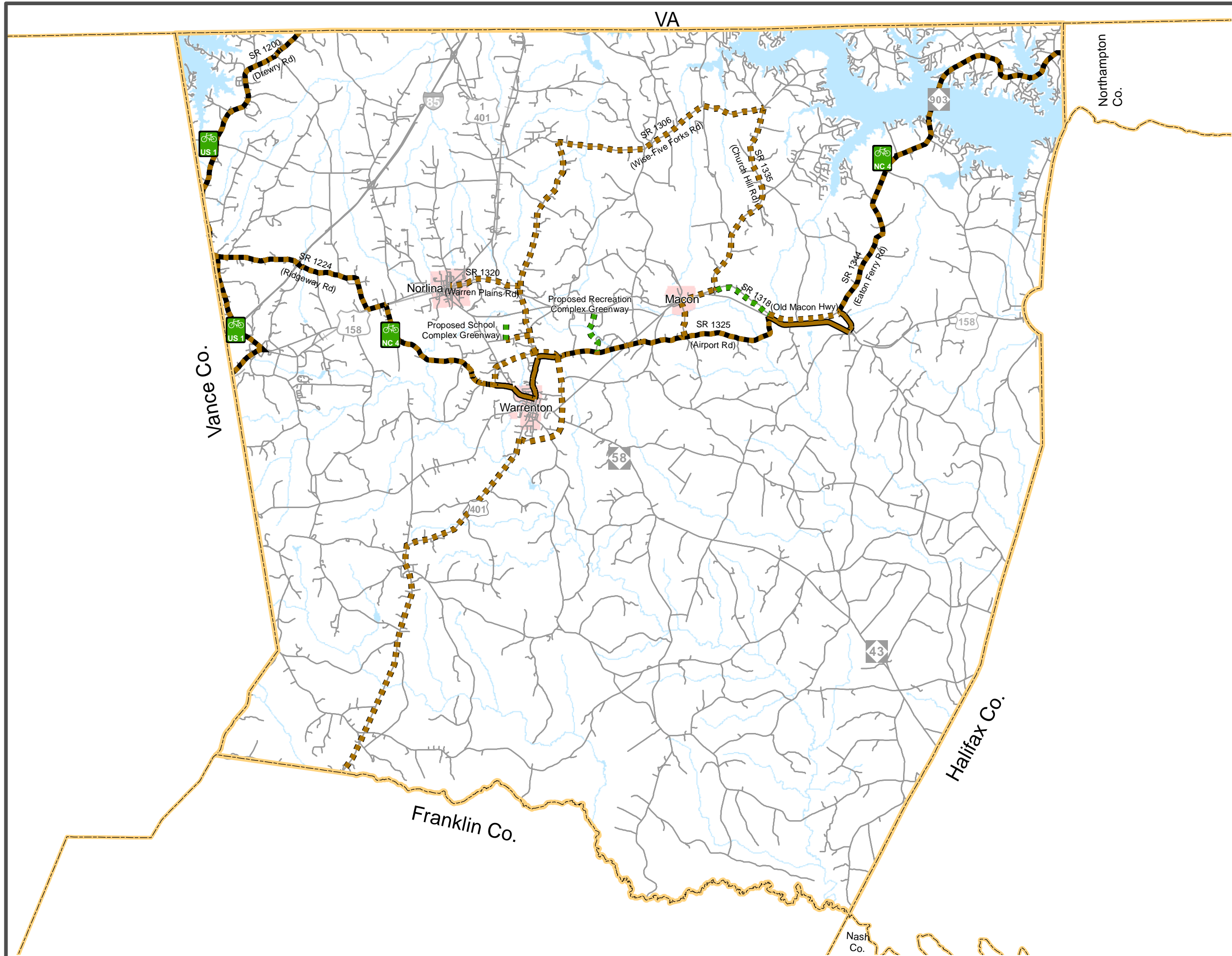
0 0.5 1 2 3 Miles

Sheet 3 of 4

Base map date: October 2005  
Refer to CTP document for more details







## Bicycle Map



## Warren County

### Comprehensive Transportation Plan

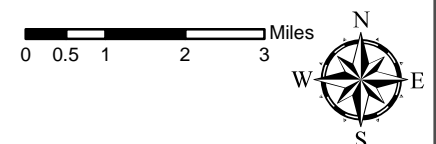
Plan date: November 20, 2008

#### On-road

- Existing
- Needs Improvement
- Recommended

#### Off-road

- Existing
- Needs Improvement
- Recommended



Sheet 4 of 4

Base map date: June 2005

Refer to CTP document for more details

## 2. Recommendations

---

This chapter contains recommended improvements based on the ability of the existing system to serve current and anticipated travel desires as the area continues to grow. The recommended plan represents a system of transportation elements including highway, public transportation, rail, and bicycle which will serve the anticipated traffic and land development needs for the County. The primary objective of this plan is to reduce traffic congestion and improve safety by eliminating both existing and projected deficiencies in the transportation system.

### 2.1 Highway Map

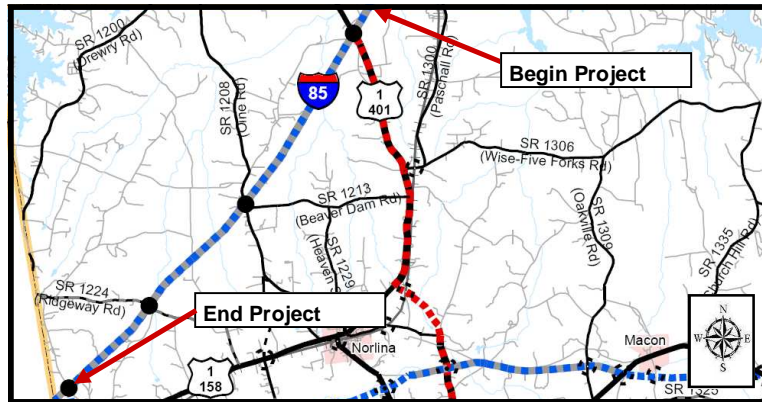
The recommended highway improvements are illustrated in **Figure 2, Sheet 2**. The plan includes roadways within the planning area that fall into five categories: freeways, expressways, boulevards, other major thoroughfares, and minor thoroughfares. See Appendix B for a more detailed description of the each category and Appendix C for an inventory of the highway recommendations.

The process of determining and evaluating recommendations for the roads in the plan involves many considerations including the goals and objectives survey of the public in the area, existing roadway properties, identified roadway capacity deficiencies, environmental impacts, and existing and anticipated land development. Considerations of these factors led to the cooperative development of the recommended improvements.

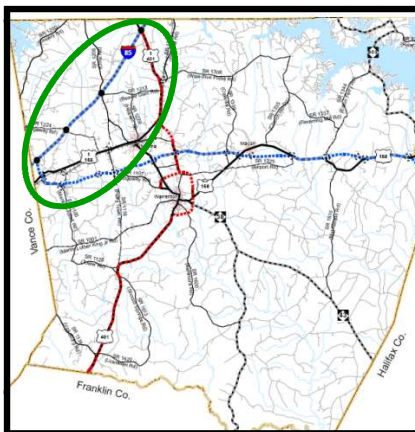
### 2.2 Primary Route Improvements

The following pages will summarize and describe each recommendation.





I-85 Project Location Map



Warren County CTP Highway Map



I-85 South

**Project Description:**

- I-85 is recommended to be widened and improved to a 6-lane freeway facility. This improvement is planned from the Vance County line to the Virginia border.

**Purpose:**

- To improve capacity of I-85, since it is projected to exceed capacity by 2035.
- The 6-lane freeway recommendation is consistent with the Strategic Highway Corridors (SHC) vision for I-85.

**Existing Conditions**

- Project area is mostly rural area.
- I-85 serves as the main north-south route connecting major destinations in North Carolina and other destinations outside the state.

**Economic Development Impacts**

- This project should have positive economic development impacts as the recommended six lane freeway will improve access for destinations in north-west Warren County.

**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**

<b>2009 - 2015 TIP #</b>	N/A
<b>MPO / RPO Planning Organization(s)</b>	Kerr-Tar RPO
<b>County</b>	Warren
<b>CTP Designation</b>	Freeway
	6-lane
<b>Tier</b>	Statewide
<b>Bike</b>	none
<b>Ped</b>	none
<b>Transit</b>	none
<b>Air Quality Regionally Significant</b>	N/A
<b>Air Quality Horizon Year</b>	N/A
<b>Est. Cost (2008)</b>	\$116,000,000
<b>Funding Source</b>	STP

### Land Use Impacts

- This project may promote urbanized and commercial development in current rural areas.
- Homes and businesses that could be impacted where additional Right-of-Way (ROW) is needed have not been identified.

### Safety

- This project should improve safety as widening the existing cross section will increase capacity by adding an extra lane in the north and south directions.

### Bike / Pedestrian / Transit

- No Bike, Pedestrian, or Transit facilities should be impacted, however bike routes are recommended for improvement on Manson Rd. (SR 1237) and Ridgeway Rd. (SR 1224), which are in the project area. (See CTP Bicycle Map and Warr011 for further information)

### Environmental / Historical Features

- Wetlands and stream crossing impacts are on Figure 7 (environmental mapping).
- No historical structures or properties are identified in the immediate area.

### Project History / Relationship to other plans

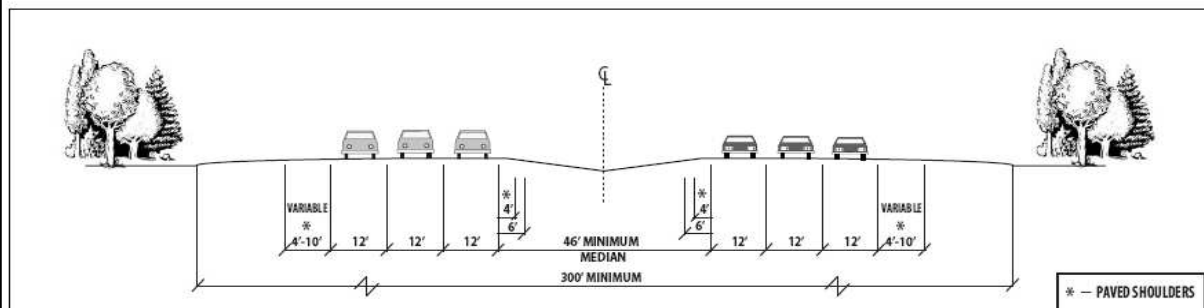
- This section of I-85 serves as a major route connecting Richmond and southern Virginia to the Triangle area.
- This specific project is not listed in 2009-2015 Transportation Improvement Program (TIP).
- This project is not in the Kerr-Tar RPO priority list.

<b>I-85</b>	<b>DIST. (mile)</b>	<b>RDWY (feet)</b>	<b>ROW (feet)</b>	<b>NUMBER OF LANES</b>	<b>CAPACITY (VPD)</b>	<b>AADT TRAFFIC (VPD)</b>	<b>Cross Section / Notes</b>
<b>2009 (EXISTING) CONDITIONS</b>							
Vance Co Line— Manson Rd. (SR 1237)	0.5	48	250	4	53,700	28,000	N/A
Manson Rd. (SR 1237) — US 1	9.2	48	250	4	53,700	24,000	N/A
US 1—NC/VA State Line	0.8	48	250	4	53,700	25,000	N/A
<b>2035 (FUTURE) CONDITIONS</b>							
Vance Co Line—Manson Rd. (SR 1237)	0.5	72	300	6	82,100	84,000	A6
Manson Rd. (SR 1237) — US 1	9.2	72	300	6	82,100	81,000	A6
US 1—NC/VA State Line	0.8	72	300	6	82,100	84,000	A6

**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**

**Proposed Cross Section: Six Lane Freeway**

**A6 (Freeway):** Six-lane divided highway in rural area with fully controlled access and 46' minimum median. ROW 300' minimum.

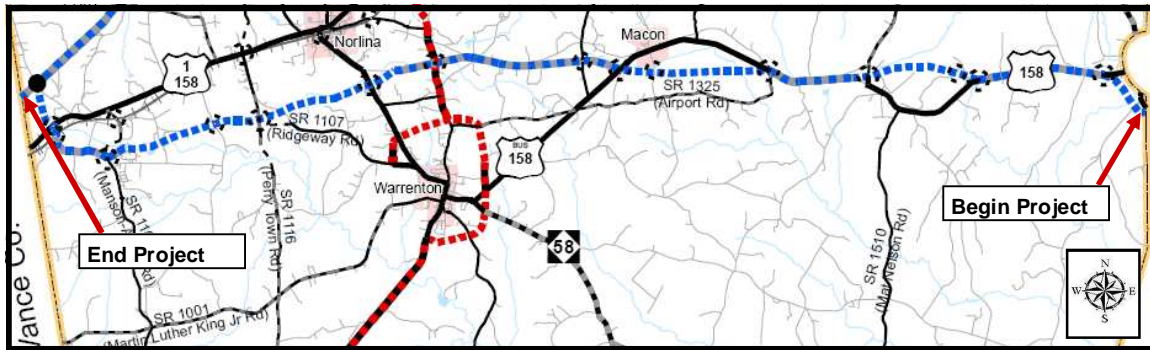


**MODIFIED A6 Freeway**  
**SIX LANES DIVIDED WITH MEDIAN**

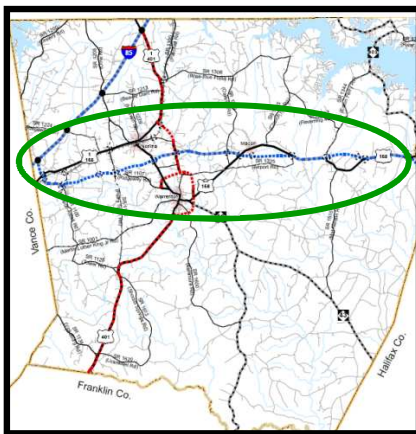
**NOTE:** Definitions of terms can be found in Appendix B. All information is subject to change.







US 158 Project Location Map



Warren County CTP Highway Map



US 158, looking south near I-85

**Project Description:**

- US 158 is recommended to be widened and improved to a 4-lane freeway facility. This recommendation is accomplished by a mix of recommended widening of existing and new location segments. New location bypasses are recommended for Littleton, Macon, Norlina, and the unincorporated community of Vaughn. The project limits are from I-85 to Halifax County.

**Purpose:**

- To increase mobility in northern North Carolina by connecting I-85 and I-95.
- Most sections of US 158 will be over capacity by 2035.
- The 4-lane freeway recommendation is consistent with the Strategic Highway Corridors (SHC) vision map for US 158 between I-85 and I-95.

**Existing Conditions**

- Project area is mostly farmland and wooded area, and some residential.
- Currently, US 158 is a 2-lane highway classified as a Principle Arterial on the Federal Functional Classification System.

**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**

<b>2009 2015 TIP #</b>	R-2587
<b>MPO / RPO Planning Organization(s)</b>	Kerr-Tar RPO
<b>County</b>	Warren
<b>CTP Designation</b>	Freeway Part on new Location
<b>Tier</b>	Regional
<b>Bike</b>	none
<b>Ped</b>	none
<b>Transit</b>	none
<b>Air Quality Regionally Significant</b>	N/A
<b>Air Quality Horizon Year</b>	N/A
<b>Est. Cost (2009)</b>	\$138,000,000
<b>Funding Source</b>	STP

**Economic Development Impacts**

- This project should have positive economic development impacts as the recommended US 158 improvement will enhance east to west mobility across the county.

**Land Use Impacts**

- This project may promote urbanized development in current rural areas.
- Future land use plan amendments and land use decisions should consider the functionality of this corridor.

**Safety**

- This project should improve safety due to replacing at-grade intersections with interchanges and overpasses, and adding a median.

**Bike / Pedestrian / Transit**

- Sections of the existing US 158 are designated as a bike route. The improvement to a freeway will not allow for bicycle facilities. Refer to the CTP's Bicycle Map for location and recommendation on Figure 2, Sheet 4.

**Environmental / Historical Features**

- Wetlands and stream crossing impacts are identified on Figure 7 (environmental mapping).
- No historical structures or properties are identified in the immediate area.

<b>US 158</b>	<b>DIST. (mile)</b>	<b>RDWY (feet)</b>	<b>ROW (feet)</b>	<b>NUMBER OF LANES</b>	<b>CAPACITY (VPD)</b>	<b>AADT TRAFFIC (VPD)</b>	<b>Cross Section /Notes</b>
<b>2009 (EXISTING) CONDITIONS</b>							
Vance County Line - Manson	1.1	22	100	2	9,500	3,000	N/A
Manson Rd. (SR 1237) - Norlina WCL	3.7	23	100	2	9,900	6,600	N/A
Norlina WCL - Terrell Street	0.4	22	60	2	9,000	7,100	N/A
Terrell Street- Norlina SCL	0.7	21	60	2	8,700	8,500	N/A
Norlina SCL - US 158 Business	0.5	22	60	2	7,300	9,000	N/A
US 158 Business - Warren	0.7	21	60	2	7,000	4,900	N/A
Warren County High School - Warren Plains Rd. (SR 1305)	0.7	21	60	2	7,000	4,900	N/A
Warren Plains Rd. (SR 1305) - Oakville Rd. (SR 1309)	2.9	22	100	2	9,500	3,000	N/A
Oakville Rd. (SR 1309) - US 158 BYP/BUS	0.7	22	100	2	9,500	2,900	N/A
US 158 BYP/BUS - Macon Embro Rd. (SR 1500)	0.7	24	100	2	9,500	4,700	N/A
Macon Embro Rd. (SR 1500) - Davis Rd. (SR 1507)	4.8	24	100	2	9,500	3,700	N/A
Davis Rd. (SR 1507) - Bobbitt Rd. (SR 1349)	2.7	24	100	2	9,500	3,700	N/A
Bobbitt Rd. (SR 1349) - Littleton	2.9	24	100	2	9,500	3,400	N/A

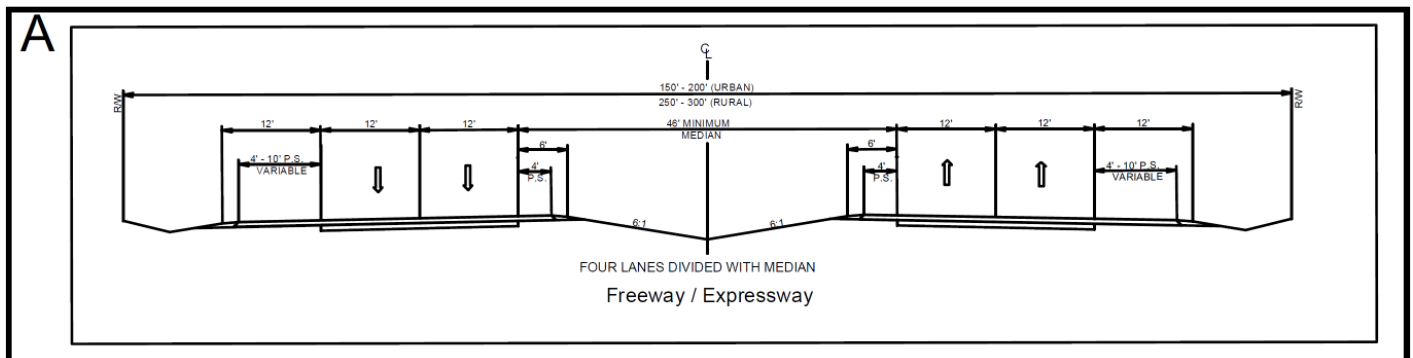
**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**

US 158	DIST. (mile)	RDWY (feet)	ROW (feet)	NUMBER OF LANES	CAPACITY (VPD)	AADT TRAFFIC (VPD)	Cross Section /Notes
<b>2035 (FUTURE) CONDITIONS</b>							
Vance Co Line - Manson Rd. (SR 1237)	0.4	48	250	4	82,100	84,000	A
Manson Rd. (SR 1237) - US 1/158	0.9	48	250	4	54,000	12,000	A
US 1/158 - Satterwhite Rd. (SR 1100)	1.5	48	250	4	54,000	12,000	A
Satterwhite Rd. (SR 1100) - US 158 Bypass (New Location)	6.0	48	250	4	54,000	12,000	A
US 158 Bypass (New Location) - US 158 BUS	4.4	48	250	4	54,000	12,000	A
US 158 BUS - US 158	2.9	48	250	4	54,000	15,000	A
US 158 - Eaton Ferry Rd. (SR 1344)	2.0	48	250	4	54,000	11,800	A
Eaton Ferry Rd. (SR 1344) - US 158	2.2	48	250	4	54,000	11,800	A
US 158 - New Location	2.4	48	250	4	54,000	8,500	A
New Location - Halifax Co Line	1.2	48	250	4	54,000	8,500	A

## Project History / Relationship to other plans

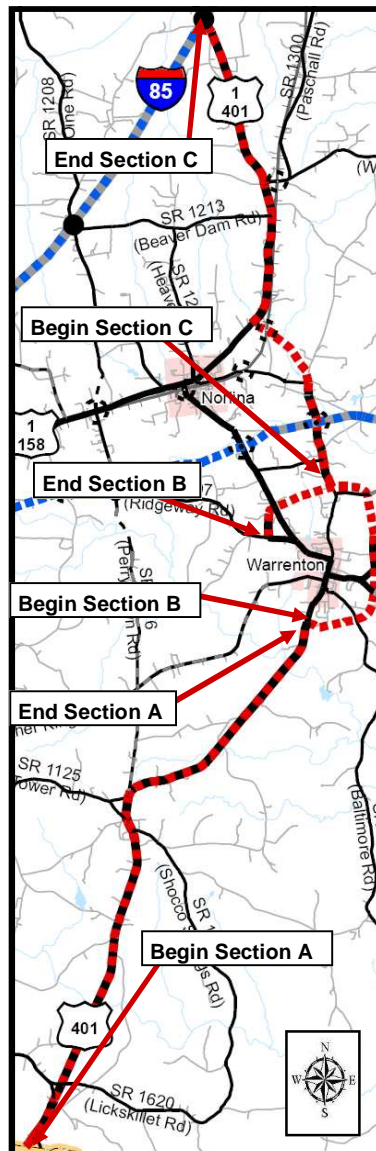
- Norlina's 2004 Thoroughfare Plan (TP) recommended a southern bypass of the Town and some widening on existing location. The portion of this recommendation inside the Norlina TP did change to reflect the Strategic Highway Corridors (SHC) vision for the US 158.
- Warrenton's 2005 Comprehensive Transportation Plan also recommended this project through their planning area, and the same alignment is reflected in the Warren County CTP.
- State law §136-178 mandates that US 158 is a important corridor and part of the Intrastate System. The Intrastate System is intended to provide high-speed, safe travel service throughout the State. It connects major population centers both inside and outside the State and provides safe, convenient, through-travel for motorists.
- This project is identified in the 2009-2015 TIP as project R-2587.

## Proposed Cross Section: Four Lane Freeway



**NOTE:** Definitions of terms can be found in Appendix B. All information is subject to change.

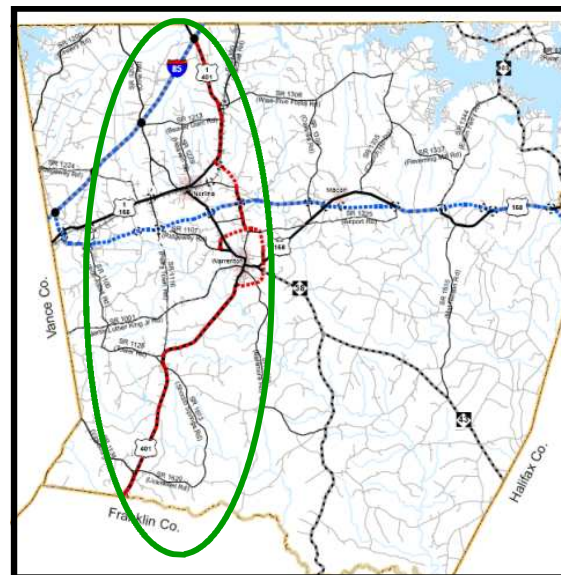




US 401 Project Location Map



US 401, looking south near I-85



Warren County CTP Highway Map

## Project Description:

- US 401 is recommended to be widened and improved to a 4-lane boulevard facility through the County. US 401 is proposed to be rerouted around Warrenton on new location via the proposed Warrenton Loop. The Warrenton Loop is a partial loop around Warrenton on new location (see Section B). From the proposed Warrenton Loop to I-85, it is recommended that US 401 be realigned to Main Street (SR 1305) and continue north (part on new location) to existing US1/401. This recommendation will provide better access along the corridor.

## Purpose:

- This project will increase capacity and reduce deficiencies projected for 2035.
- This recommendation is consistent with the Strategic Highways Corridor (SHC) Vision Map, which designates US 401 as a boulevard from Raleigh to I-85, to maintain mobility statewide.
- By diverting regional truck traffic on to this project, local facilities inside Norlina and Warrenton should see decreases in regional truck traffic.

**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**



<b>2009 - 2015 TIP #</b>	none
<b>MPO / RPO Planning Organization(s)</b>	Kerr-Tar RPO
<b>County</b>	Warren
<b>CTP Designation</b>	Boulevard
	Part on new Location
<b>Tier</b>	Statewide
<b>Bike</b>	sections
<b>Ped</b>	none
<b>Transit</b>	none
<b>Air Quality Regionally Significant</b>	N/A
<b>Air Quality Horizon Year</b>	N/A
<b>Est. Cost (2009)- Part A</b>	\$39,960,000
<b>Est. Cost (2009)- Part B</b>	\$24,450,000
<b>Est. Cost (2009)- Part C</b>	\$33,334,000
<b>Funding Source</b>	STP, local

## Existing Conditions

- The project area is mostly farmland and wooded area, except in and near Warrenton.
- Currently, US 401 is a 2-lane serving residential, commercial, commuter and freight traffic.

## Economic Development Impacts

- This project should have positive economic development impacts, as it would improve north-south travel for automobiles and freight within the county.

## Land Use Impacts

- Urbanized development is expected along the corridor, especially closer to Warrenton.
- Mobility on this proposed 4-lane facility can be maximized by limiting driveway access. Future land use plan amendments and land use decisions should consider the functionality of this corridor.

## Safety

- No safety problems are identified on the route outside of increasing congestion in the future.
- The Warrenton Loop will divert through traffic that could potentially be hazardous to pedestrians in downtown Warrenton.

## Bike / Pedestrian / Transit

- Parts of US 401 from Norlina to Warrenton and to the Franklin County Line are recommended as a Bike Route with some existing sections in Warrenton. Refer to the CTP's Bicycle Map for location and recommendation on Figure 2, Sheet 4.

## Environmental / Historical Features

- Wetland impacts are identified on Figure 7 (environmental mapping).
- Since most of downtown Warrenton is a historic district, widening through town was not considered.

## Project History / Relationship to other plans

- The Warrenton Loop was identified in the 2005 Warrenton CTP as Warrenton Blvd. The 2005 Warrenton CTP recommendation for Warrenton Loop had a section that extended this current recommendation from Ridgeway Rd. (SR 1107) to Martin Luther King Jr. Rd. (SR 1001). This section was removed because data indicated the facility would not support significant traffic in this area.
- This project is vital in an effort to improve through truck traffic in the area, which is one of Warrenton's main concerns. Due to the historic nature of downtown Warrenton, it would be difficult to widen the existing roadway. There have been many occurrences, specifically at the intersection of Macon Street and Main Street, regarding sidewalk and building damage by trucks.
- US 401 is listed as a Strategic Highway Corridor (SHC).
- The Warrenton loop was placed to the east because of the higher traffic demand of nearby routes (US 158, NC 58, and NC 43). In 2035, this facility is anticipated to carry 1,600-7,300 vpd.
- This project is not funded on the 2009-2015 TIP.

**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**

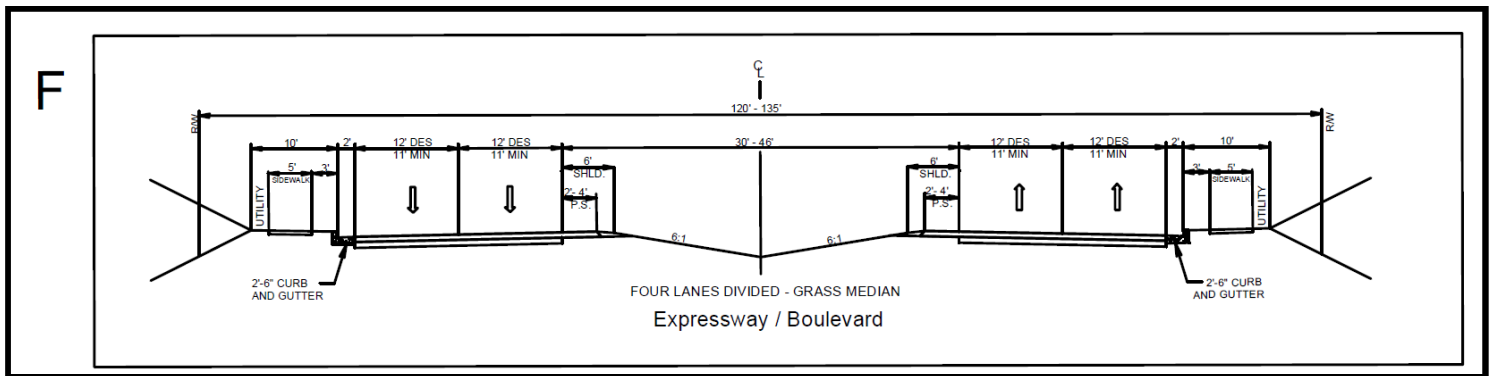
US 401	DIST. (mile)	RDWY(feet)	ROW(feet)	NUMBER OF LANES	CAPACITY (VPD)	AADT TRAFFIC (VPD)	Cross Section /Notes
<b>2009 (EXISTING) CONDITIONS</b>							
Franklin Co. Line - Lee Rd. (SR 1137)	1.5	20	60	2	9,300	1,900	N/A
Lee Rd. (SR 1137) - Afton	3.9	20	60	2	9,300	1,800	N/A
Afton - Warrenton SCL	4.9	20	60	2	9,300	2,200	N/A
Warrenton SCL- Plummer St.	0.4	26	60	2	10,400	4,800	N/A
Plummer St. - Macon St.	0.2	32	60	2+Parking	15,000	4,800	N/A
Macon St. - Warren Plains Rd. (SR 1305)	0.3	34	60	2+Parking	15,000	5,100	N/A
Warren Plains Rd. (SR 1305) - Harris St.	0.3	27	40	2	10,400	5,800	N/A
Harris St. - Ridgeway Rd. (SR 1107)	0.4	45	60	4	19,400	5,800	N/A
Ridgeway Rd. (SR 1107) - Warrenton NCL	0.3	45	60	4	19,400	5,800	N/A
Warrenton NCL - Tar Heel Tire Ave.	0.2	22	60	2	10,100	6,000	N/A
Tar Heel Tire Ave. - US 158	1.8	22	80	2	10,100	6,000	N/A
US 158 - Norlina SCL	0.5	22	60	2	7,300	9,000	N/A
Norlina SCL - Terrell Street	0.7	21	60	2	8,700	8,500	N/A
Terrell Street - Hyco Street	0.2	34	60	2	9,800	7,100	N/A
Hyco Street - Rooker Street	0.2	21	60	2	8,700	4,100	N/A
Rooker Street - Norlina ECL	0.5	21	100	2	8,700	2,200	N/A
Norlina ECL - Weldon Rd. (SR 1319)	1.0	21	100	2	8,100	2,200	N/A
Weldon Rd. (SR 1319) - Beaverdam Rd. (SR 1213)	1.7	22	100	2	9,500	2,200	N/A
Beaverdam Rd. (SR 1213) - Dunn Rd. (SR 1212)	0.5	22	100	2	9,500	3,000	N/A
Dunn Rd. (SR 1212) - Young D E Rd. (SR 1303)	2.2	22	100	2	9,500	2,400	N/A
Young D E Rd. (SR 1303) - I-85	0.7	22	100	2	9,500	2,600	N/A

US 401	DIST. (mile)	RDWY(feet)	ROW(feet)	NUMBER OF LANES	CAPACITY (VPD)	AADT TRAFFIC (VPD)	Cross Section /Notes
<b>2035 (FUTURE) CONDITIONS - Section A</b>							
Franklin Co. Line - Rifle Range Rd. (SR 1603)	9.4	48	135	4	28,000	6,400	F
Rifle Range Rd. (SR 1603) - Warrenton 401 Loop	1.4	48	135	4	28,000	3,800	F
<b>2035 (FUTURE) CONDITIONS Section - B</b>							
Warrenton 401 Loop (New location start) - NC 58	1.4	48	135	4	28,000	1,600	F
NC 58 - US 158 Bus	0.4	48	135	4	28,000	4,100	F
US 158 Business - Airport Rd. (SR 1325)	1.3	48	135	4	28,000	6,500	F
Airport Rd. (SR 1325) - Warren Plains Rd. (SR 1305)	0.6	48	135	4	28,000	6,000	F
Warren Plains Rd. (SR 1305) - US 158 Business	1.0	48	135	4	28,000	7,300	F
US 158 Business - Ridgeway Rd. (SR 1107)	0.6	48	135	4	28,000	4,500	F
<b>2035 (FUTURE) CONDITIONS - Section C</b>							
Warrenton 401 Loop (New location) - Connell Rd. (SR 1323)	0.5	48	135	4	28,000	3,500	F
Connell Rd. (SR 1323) - US 158	0.7	48	135	4	28,000	3,500	F
US 158 - Plains Rd. (SR 1320)	0.7	48	135	4	28,000	3,500	F
Plains Rd. (SR 1320) - US 1/401	1.4	48	135	4	28,000	4,500	F
US 1/401 - Weldon Rd. (SR 1319)	0.3	48	135	4	28,000	5,500	F
Weldon Rd. (SR 1319) - Beaverdam Rd. (SR 1213)	1.6	48	135	4	28,000	4,100	F
Beaverdam Rd. (SR 1213) - Dunn Rd. (SR 1212)	0.5	48	135	4	28,000	4,400	F
Dunn Rd. (SR 1212) - Young D E Rd. (SR 1303)	2.2	48	135	4	28,000	4,300	F
Young D E Rd. (SR 1303) - I-85	0.7	48	135	4	28,000	7,600	F

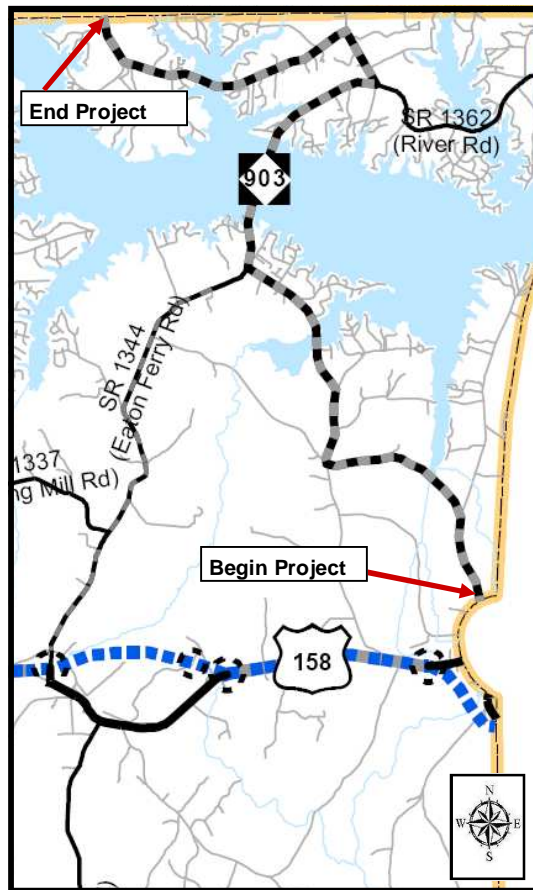
**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**



**Proposed Cross Section:  
Four Lane Boule-**



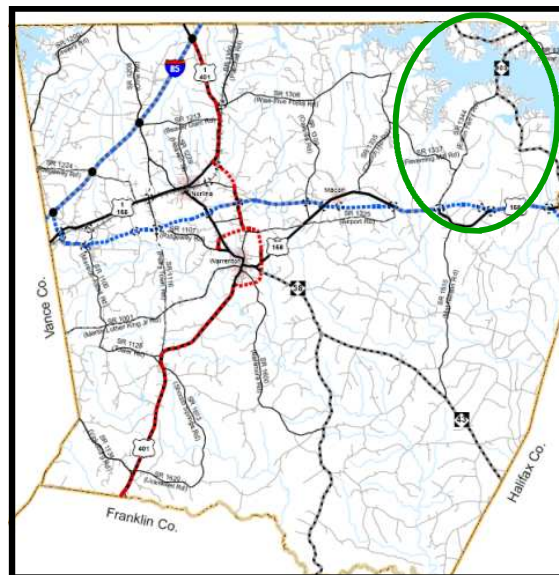
**NOTE:** Definitions of terms can be found in Appendix B. All information is subject to change.



NC 903 Project Location Map



NC 903, looking north near Eaton Ferry Rd. (SR 1344)



Warren County CTP Highway Map

**Project Description:**

- NC 903 is recommended to be widened to two -12 foot lanes with paved shoulders. No improvements are recommended for the existing bridge over Lake Gaston. This improvement is planned from the Halifax County line to the Virginia border.

**Purpose:**

- NC 903 is one of the major links between US 158 and the Lake Gaston area. Traffic on this road is increasing rapidly as residential construction continues to be strong. NC 903 carries truck traffic, vehicles pulling boats, as well as seasonal recreation traffic and the recommended widening will help overcome some of the congestion and unsafe travel conditions.

**Existing Conditions**

- Project area is mostly farmland and wooded area. Residential developments and subdivisions are becoming more prevalent due to NC 903's access to Lake Gaston.

**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**

<b>2009 - 2015 TIP #</b>	N/A
<b>MPO / RPO Planning Organization(s)</b>	Kerr-Tar RPO
<b>County</b>	Warren
<b>CTP Designation</b>	Major Thoroughfare
	Needs Improvement
<b>Tier</b>	Local
<b>Bike</b>	NC 4 Bike Route
<b>Ped</b>	none
<b>Transit</b>	none
<b>Air Quality Regionally Significant</b>	N/A
<b>Air Quality Horizon Year</b>	N/A
<b>Est. Cost (2009)</b>	\$24,570,000
<b>Funding Source</b>	STP, local

**Economic Development Impacts**

- This project will have some economic impact as it is a major route for recreational traffic and help facilitate the movement of goods and services.

**Land Use Impacts**

- Residential and commercial development are expected along the corridor.
- Mobility on this proposed 2-lane facility can be maximized by limiting driveway access. Future land use plan amendments and land use decisions should consider the functionality of this corridor.

**Safety**

- This project will improve safety as the wider lanes and paved shoulder create a safer driving conditions.

**Bike / Pedestrian / Transit**

- Sections of NC 903 north of Eaton Ferry Rd. (SR 1344) carries the NC 4 Bike Route. Refer to Figure 2 for location and recommendation.

**Environmental / Historical Features**

- Wetlands impacts, are identified on Figure 7 (environmental mapping).
- No historical structures or properties are identified in the immediate area.

**Project History / Relationship to other plans**

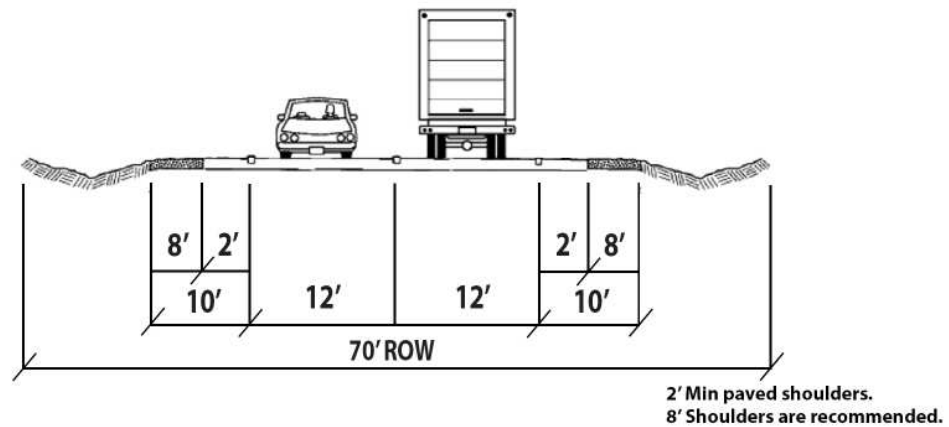
- This project has not been identified on any other transportation plan.
- This project is currently not on the 2009-2015 TIP.
- NC 903 and Eaton Ferry Rd. (SR 1344) (see Warr013) will help provide access to the Lake Gaston Area.

<b>NC 903</b>	<b>DIST. (mile)</b>	<b>RDWY (feet)</b>	<b>ROW (feet)</b>	<b>NUMBER OF LANES</b>	<b>CAPACITY (VPD)</b>	<b>AADT TRAFFIC (VPD)</b>	<b>Cross Section /Notes</b>
<b>2009 (EXISTING) CONDITIONS</b>							
Halifax Co. Line - Epworth Rd. (SR 1352)	2.0	24	60	2	9,500	1,900	N/A
Epworth Rd. (SR 1352) - Eaton Ferry Rd. (SR 1344)	2.3	24	60	2	9,500	2,300	N/A
Eaton Ferry Rd. (SR 1344) - Dove Manor Rd. (SR 1388)	3.3	24	60	2	9,500	2,900	N/A
Dove Manor Rd. (SR 1388) - NC/VA State Line	4.1	20	60	2	9,500	1,500	N/A
<b>2035 (FUTURE) CONDITIONS</b>							
Halifax Co. Line—Epworth Rd. (SR 1352)	2.0	24	70	2	12,000	7,400	K
Epworth Rd. (SR 1352) - Eaton Ferry Rd. (SR 1344)	2.3	24	70	2	12,000	8,600	K
Eaton Ferry Rd. (SR 1344) - Dove Manor Rd. (SR 1388)	3.3	24	70	2	12,000	11,000	K
Dove Manor Rd. (SR 1388) - NC/VA State Line	4.1	24	70	2	12,000	7,000	K

**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**

**Proposed Cross Section: Two Lane with Paved Shoulder**

**K (Minor Thoroughfare):** Two-lane with paved shoulders. 70' ROW

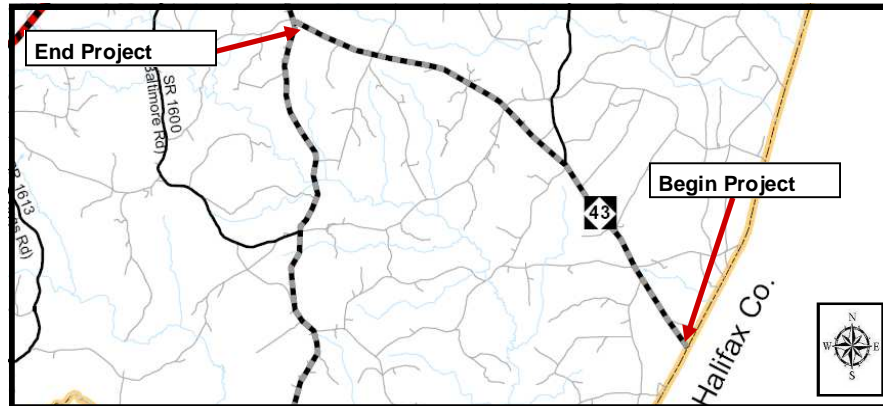


**K**  
**MINOR THOROUGHFARE**

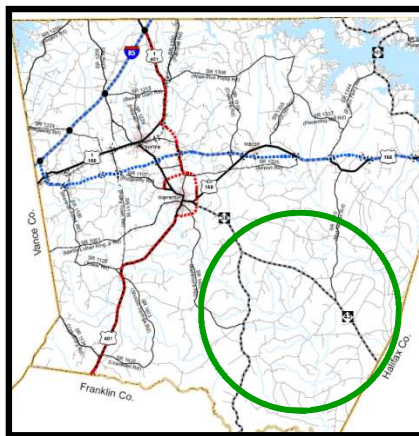
Figure 10 B-4 Minor Thoroughfare

**NOTE:** Definitions of terms can be found in Appendix B. All information is subject to change.





NC 43 Project Location Map



Warren County CTP Highway Map



NC 43 , looking north near Mat Nelson Rd. (SR 1510)

**Project Description:**

- NC 43 is recommended to be widened to two 12-foot lanes with paved shoulders. This improvement is planned from NC 58 to the Halifax County Line.

**Purpose:**

- The recommended widening will improve safety and capacity.

**Existing Conditions**

- NC 43 is a Major Thoroughfare providing access to the southeastern part of the County.
- The project area is mostly farmland and wooded area.

**Economic Development Impacts**

- This project will have some economic impact as NC 43 serves regional destinations to the East. This should affect future development in Warrenton and the southeastern part of the county. Future land use plans should account for this facility change.

**Land Use Impacts**

- Residential and rural development is expected along the corridor.
- Mobility on this proposed 2-lane facility can be maximized by limiting driveway access. Future land use plan amendments and land use decisions should consider the functionality of this corridor.

**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**

<b>2009 - 2015 TIP #</b>	N/A
<b>MPO / RPO Planning Organization(s)</b>	Kerr-Tar RPO
<b>County</b>	Warren
<b>CTP Designation</b>	Major Thoroughfare
	Needs Improvement
<b>Tier</b>	Local
<b>Bike</b>	none
<b>Ped</b>	none
<b>Transit</b>	none
<b>Air Quality Regionally Significant</b>	N/A
<b>Air Quality Horizon Year</b>	N/A
<b>Est. Cost (2009)</b>	\$12,000,000
<b>Funding Source</b>	STP, local

**Safety**

- If NC 43 is not widened, congestion, delays and crashes will worsen. Increasing the capacity of the facility will provide a safer facility for vehicles.

**Bike / Pedestrian / Transit**

- None are identified on NC 43.

**Environmental / Historical Features**

- Wetlands and stream crossing impacts are on Figure 7 (environmental mapping).
- No historical structures or properties are identified in the immediate area.

**Project History / Relationship to other plans**

- This is the first time NC 43 has been recommended for improvement in a transportation plan.
- This project is not funded on the 2009-2015 TIP.

<b>NC 43</b>	<b>DIST. (mile)</b>	<b>RDWY (feet)</b>	<b>ROW (feet)</b>	<b>NUMBER OF LANES</b>	<b>CAPACITY (VPD)</b>	<b>AADT TRAFFIC (VPD)</b>	<b>Cross Section / Notes</b>
<b>2009 (EXISTING) CONDITIONS</b>							
Halifax County Line - Hamlet Rd. (SR 1519)	1.7	20	60	2	9,300	940	N/A
Hamlet Rd. (SR 1519) - Gill Alston Rd. (SR 1513)	2.3	20	60	2	9,300	1,900	N/A
Gill Alston Rd. (SR 1513) - Marmaduke	4.3	20	60	2	9,300	1,600	N/A
Marmaduke - NC 58 Liberia	1.7	20	60	2	9,300	2,400	N/A
<b>2035 (FUTURE) CONDITIONS</b>							
Halifax County Line - Hamlet Rd. (SR 1519)	1.7	24	70	2	12,000	2,400	K
Hamlet Rd. (SR 1519) - Gill Alston Rd. (SR 1513)	2.3	24	70	2	12,000	4,800	K
Gill Alston Rd. (SR 1513) - Marmaduke	4.3	24	70	2	12,000	4,000	K
Marmaduke - NC 58 Liberia	1.7	24	70	2	12,000	6,000	K

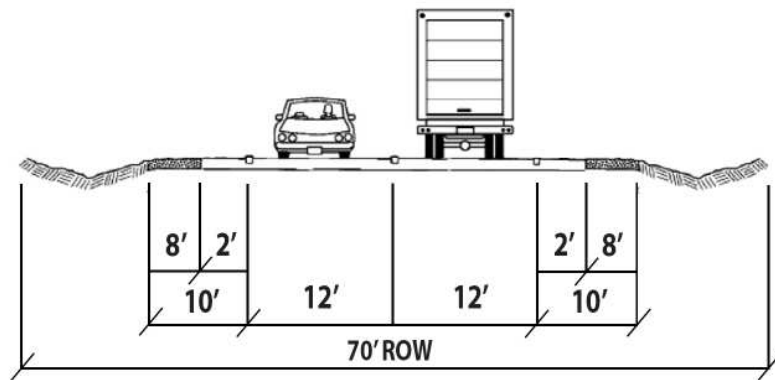
**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**



**Proposed Cross  
Section:**

**Two Lane with  
Paved Shoulder**

**K (Minor Thoroughfare):** Two-lane with paved shoulders. 70' ROW



2' Min paved shoulders.  
8' Shoulders are recommended.

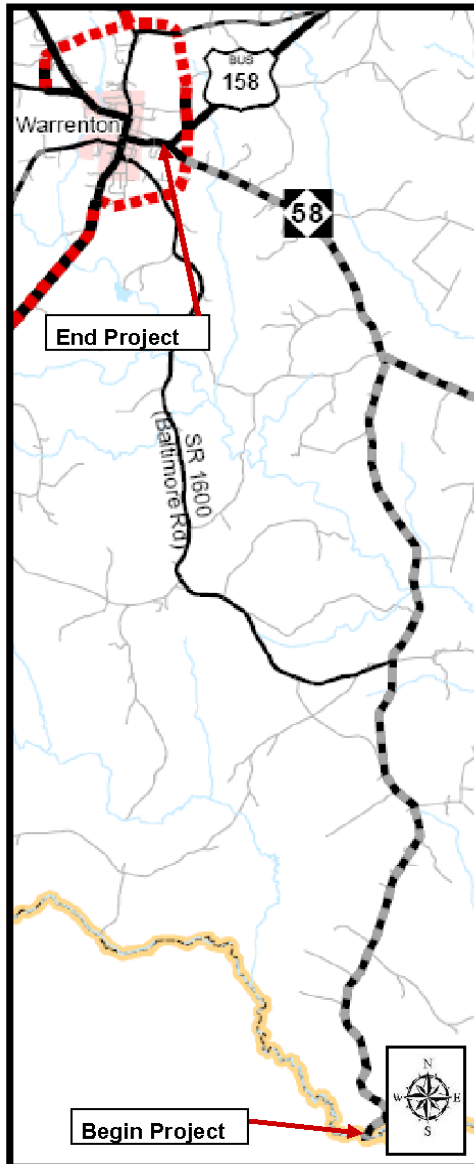
**K  
MINOR THOROUGHFARE**

*Figure 10 B-4 Minor Thoroughfare*

**NOTE:** Definitions of terms can be found in Appendix B. All information is subject to change.



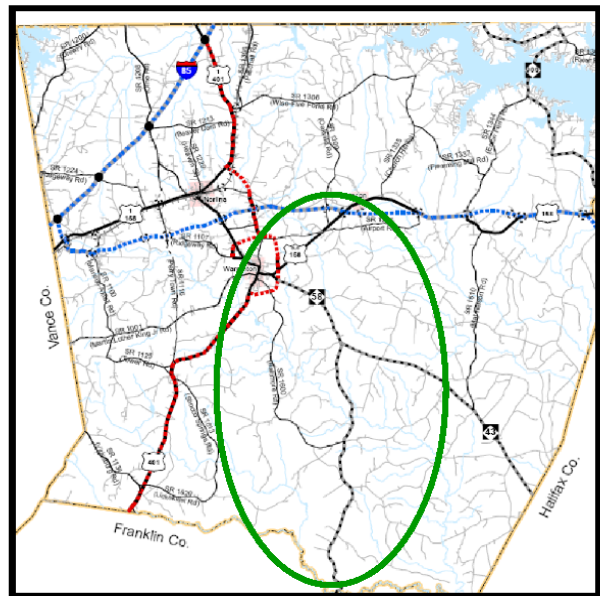




NC 58 Project Location Map



NC 58, looking south near NC 43



Warren County CTP Highway Map

**Project Description:**

- NC 58 is recommended to be widened to two 12-foot lanes with paved shoulders. This improvement is planned from the US 401-Warrenton Loop (see Warr003) to the Franklin County line.

**Purpose:**

- The recommended widening should help reduce congestion and improve capacity.
- This project is needed to improve mobility in the Southern part of the County and will act as another connector to Franklin County to the south.

**Existing Conditions**

- Project area is mostly farmland and wooded area.

**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**

<b>2009 - 2015 TIP #</b>	N/A
<b>MPO / RPO Planning Organization(s)</b>	Kerr-Tar RPO
<b>County</b>	Warren
<b>CTP Designation</b>	Major Thoroughfare
	Needs Improvement
<b>Tier</b>	Local
<b>Bike</b>	none
<b>Ped</b>	none
<b>Transit</b>	none
<b>Air Quality Regionally Significant</b>	N/A
<b>Air Quality Horizon Year</b>	N/A
<b>Est. Cost (2009)</b>	\$18,600,000
<b>Funding Source</b>	STP, local

**Economic Development Impacts**

- Improvements on this facility will further provide sufficient roadway capacity to handle additional traffic resulting from new development and projected increases in commuter traffic.
- Development is expected to increase along the corridor as this route connects Warrenton and Norlina to regional destinations to the South and East.

**Land Use Impacts**

- This project should have moderate impact on the land use especially to the properties adjacent and near the highway
- This project may promote residential and commercial development along the corridor.

**Safety**

- If NC 58 is not widened, congestion, delays, and crashes will worsen. Adding extra capacity to the facility will provide safer driving conditions for vehicles.

**Bike / Pedestrian / Transit**

- None in project area.

**Environmental / Historical Features**

- Wetlands and stream crossing impacts are on Figure 7 (environmental mapping).
- No historical structures or other 4f properties are identified in the immediate area

**Project History / Relationship to other plans**

- This is the first time NC 58 has been recommended for improvement in a transportation plan.
- This project is not funded on the 2009-2015 TIP.

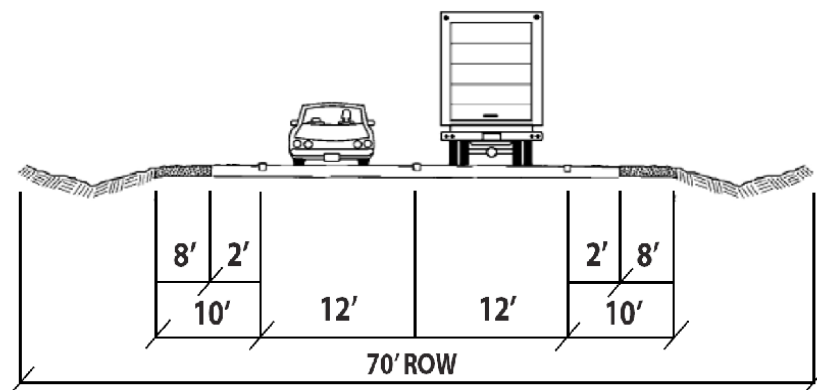
<b>NC 58</b>	<b>DIST. (mile)</b>	<b>RDWY(feet)</b>	<b>ROW (feet)</b>	<b>NUMBER OF LANES</b>	<b>CAPACITY (VPD)</b>	<b>AADT TRAFFIC (VPD)</b>	<b>Cross Section /Notes</b>
<b>2009 (EXISTING) CONDITIONS</b>							
Franklin Co. Line - Liberia	11.3	18	60	2	6,900	500	N/A
Liberia - Warrenton-Embroid Rd. (SR 1509)	2.1	18	60	2	6,900	2,400	N/A
Warrenton-Embroid Rd. (SR 1509) - US 158 Bus.	2.1	18	60	2	9,200	5,900	N/A
<b>2035 (FUTURE) CONDITIONS</b>							
Franklin Co. Line - Liberia	11.3	24	70	2	12,000	7,400	K
Liberia - Warrenton-Embroid Rd. (SR 1509)	2.1	24	70	2	12,000	8,600	K
Warrenton-Embroid Rd. (SR 1509) - US 158 Bus.	2.1	24	70	2	12,000	5,900	K

**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**

**Proposed Cross  
Section:**

Two Lane with  
Paved Shoulder

**K (Minor Thoroughfare):** Two-lane with paved shoulders, 70' ROW



2' Min paved shoulders.  
8' Shoulders are recommended.

**K  
MINOR THOROUGHFARE**

*Figure 10 B-4 Minor Thoroughfare*

**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**



# Secondary Road Recommendations

PROJ ID Warr0007-013

March 2, 2010

## Martin Luther King Jr. Rd. (SR 1001)

Warr007

### Project Description:

- Martin Luther King Jr. Rd. (SR 1001) is recommended to be widened to two 12-foot lanes with paved shoulders. This improvement is planned from the Vance County line to existing US 401 in Warrenton.

### Purpose:

- To provide adequate capacity for the safe movement of vehicles.

SR 1001	DIST. (mile)	RDWY(feet)	ROW (feet)	NUMBER OF LANES	CAPACITY (VPD)	AADT TRAFFIC (VPD)	Cross Section /Notes
<b>2009 (EXISTING) CONDITIONS</b>							
Vance County Line - Axtell	1.7	20	100	2	9,300	3,600	N/A
Axtell - Cooper Dr. (SR 1149)	3.5	20	100	2	9,300	2,900	N/A
Cooper Dr. (SR 1149) - US 401	3.2	20	100	2	9,300	2,900	N/A
<b>2035 (FUTURE) CONDITIONS</b>							
Vance County Line - Axtell	1.7	24	70	2	12,000	7,500	K
Axtell - Cooper Dr. (SR 1149)	3.5	24	70	2	12,000	8,400	K
Cooper Dr. (SR 1149) - US 401	3.2	24	70	2	12,000	8,400	K

## Perry Town Rd. Extension (SR 1116)

Warr008

### Project Description:

- Perry Town Rd. (SR 1116) and Crowder Pond Rd. (SR 1111) are both recommended to be widened to two - 12 foot lanes with paved shoulders and connected by a bridge. This improvement is planned from the US 401 to US 1/158.

### Purpose:

- To create a direct north-south corridor utilizing existing facilities and minimizing impact to the environment. Establishing a connection between Perry Town Rd. (SR 1116) and Crowder Pond Rd. (SR 1111) will provide an alternative route to US 401 and a direct north-south connection between US 401 and I-85.

SR 1116	DIST. (mile)	RDWY(feet)	ROW (feet)	NUMBER OF LANES	CAPACITY (VPD)	AADT TRAFFIC (VPD)	Cross Section /Notes
<b>2009 (EXISTING) CONDITIONS - Perry Town Rd. (SR 1116)</b>							
US 401 - King Blvd. (SR 1001)	1.7	18	60	2	6,900	280	N/A
King Blvd. (SR 1001) - No	2.5	18	60	2	6,900	280	N/A
No Bottom Rd. (SR 1118) - End of Road	0.7	18	60	2	6,900	40	N/A
<b>2009 (EXISTING) CONDITIONS - Crowders Pond Rd. (SR 1111)</b>							
Ridgeway Rd. (SR 1107) - End of Road	1.0	18	60	2	6,900	120	N/A
<b>2035 (FUTURE) CONDITIONS</b>							
US 401 - King Blvd. (SR 1001)	1.7	24	70	2	12,000	4,000	K
King Blvd. (SR 1001) - No Bottom Rd. (SR 1118)	2.5	24	70	2	12,000	4,000	K
No Bottom Rd. (SR 1118) - Ridgeway Rd. (SR 1107) (Including connecting bridge)	2.2	24	70	2	12,000	4,000	K

**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**

# Secondary Road Recommendations

PROJ ID Warr0007-013

March 2, 2010

## Soul City Blvd. (SR 1151)

Warr009

### Project Description:

- Soul City Blvd. (SR 1151) is recommended to be widened to two 12-foot lanes. This improvement is planned from US 1/158 to new a new location interchange on future US 158 near Mason-Axtell Rd. (SR 1100).

### Purpose:

- To provide adequate lane width for safe movement of vehicles.

SR 1151	DIST. (mile)	RDWY(feet)	ROW(feet)	NUMBER OF LANES	CAPACITY (VPD)	AADT TRAFFIC (VPD)	Cross Section /Notes
<b>2009 (EXISTING) CONDITIONS</b>							
US 1/158 - Mason-Axtel Rd. (SR 1100)	1.2	24	60	2	9,500	300	N/A
<b>2035 (FUTURE) CONDITIONS</b>							
US 1/158 - Mason-Axtel Rd. (SR 1100)	1.2	24	70	2	12,000	2,000	K

## St. Tammany Rd. (SR 1210)

Warr010

### Project Description:

- Realign southern end of St. Tammany Rd. (SR 1210) to the northern end of Ridgeway Rd. (SR 1224). This realignment will match up with a grade-separated crossing on Ridgeway Rd. (SR 1224) over a section of the South East High Speed Rail (SEHSR) corridor.

### Purpose:

- To create a direct north-south corridor utilizing existing facilities and minimizing impact to the environment. Realigning this section, in conjunction with Perry Town Rd. Extension (SR 1116), will provide an alternate connection between US 401 and I-85.

SR 1210	DIST. (mile)	RDWY (feet)	ROW (feet)	NUMBER OF LANES	CAPACITY (VPD)	AADT TRAFFIC (VPD)	Cross Section / Notes
<b>2009 (EXISTING) CONDITIONS</b>							
Oine Rd. (SR 1231) - US 1/158	1.6	20	60	2	9300	1800	N/A
<b>2035 (FUTURE) CONDITIONS</b>							
Oine Rd. (SR 1231) - US 1/158	1.8	24	100	2	12000	6100	F

**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**

# Secondary Road Recommendations

PROJ ID Warr0007-013

March 2, 2010

## Ridgeway Rd. (SR 1224)

Warr011

### Project Description:

- Ridgeway Rd. (SR 1224) is recommended to be widened to two 12-foot lanes with paved shoulders. This improvement is planned from US 1/158 to the Vance County line.

### Purpose:

- To provide adequate lane width for safe movement of vehicles and better access to I-85 and surrounding areas.

SR 1224	DIST. (mile)	RDWY (feet)	ROW (feet)	NUMBER OF LANES	CAPACITY (VPD)	AADT TRAFFIC (VPD)	Cross Section / Notes
<b>2009 (EXISTING) CONDITIONS</b>							
Vance Co Line—I-85	1.50	20	60	2	9,300	390	N/A
I-85—US 1	2.54	20	60	2	9,300	390	N/A
<b>2035 (FUTURE) CONDITIONS</b>							
Vance Co Line—I-85	1.50	24	70	2	12,000	1,300	K
I-85—US 1	2.54	24	70	2	12,000	1,300	K

## Airport Rd. (SR 1325)

Warr012

### Project Description:

- Airport Rd. (SR 1325) is recommended to be widened to two 12-foot lanes with paved shoulders. This improvement is planned from Main St. (SR 1305) to US 158.

### Purpose:

- Airport Rd. (SR 1325) is currently 17 feet wide. Widening this facility to 24 feet will increase safety and capacity.

SR 1325	DIST. (mile)	RDWY(feet)	ROW (feet)	NUMBER OF LANES	CAPACITY (VPD)	AADT TRAFFIC (VPD)	Cross Section /Notes
<b>2009 (EXISTING) CONDITIONS</b>							
Warren Plains Rd. (SR 1305) - US 158 Business	2.5	19	60	2	8,100	1,200	N/A
US 158 Business - US 158	4.4	22	60	2	6,900	350	N/A
<b>2035 (FUTURE) CONDITIONS</b>							
Warren Plains Rd. (SR 1305) - US 158 Business	2.5	24	70	2	12,000	2,000	K
US 158 Business - US 158	4.4	24	70	2	12,000	1,200	K

**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**



# Secondary Road Recommendations

PROJ ID Warr0007-013

March 2, 2010

## Eaton Ferry Rd. (SR 1344)

Warr013

### Project Description:

- Eaton Ferry Rd. (SR 1344) is recommended to be widened to two 12-foot lanes with paved shoulders. This improvement is planned from US 158 to NC 903.

### Purpose:

- Eaton Ferry Rd. (SR 1344) is one of the two major links between US 158 and the Lake Gaston area. Traffic on this road is increasing rapidly as residential construction continues to be strong. This road carries truck traffic, vehicles pulling boats as well as seasonal recreation traffic and the recommended widening will help overcome some of the congestion during peak season.

SR 1344	DIST. (mile)	RDWY(feet)	ROW (feet)	NUMBER OF LANES	CAPACITY (VPD)	AADT TRAFFIC (VPD)	Cross Section /Notes
<b>2009 (EXISTING) CONDITIONS</b>							
Old Macon Rd. (SR 1318) – Nathaniel Macon Rd. (SR 1348)	3.3	20	60	2	9,300	1,400	N/A
Nathaniel Macon Rd. (SR 1348) - Happy Valley Rd. (SR 1367)	1.5	20	60	2	9,300	1,400	N/A
Happy Valley Rd. (SR 1367) - NC 903	1.0	20	60	2	9,300	1,400	N/A
<b>2035 (FUTURE) CONDITIONS</b>							
Old Macon Rd. (SR 1318) – Nathaniel Macon Rd. (SR 1348)	3.3	24	60	2	12,000	6,400	B4
Nathaniel Macon Rd. (SR 1348) - Happy Valley Rd. (SR 1367)	1.5	24	60	2	12,000	6,400	B4
Happy Valley Rd. (SR 1367) - NC 903	1.0	24	60	2	12,000	6,400	B4

## Cross Section for PROJ ID's Warr007-013

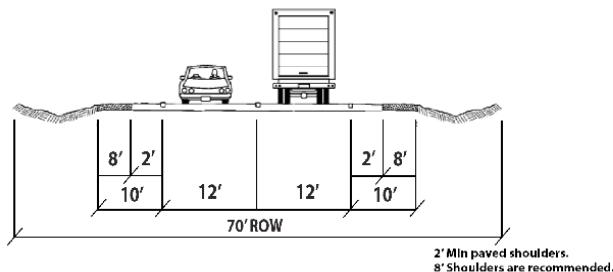
### Proposed Cross Section:

Warr007-012

### Proposed Cross Section:

Warr013

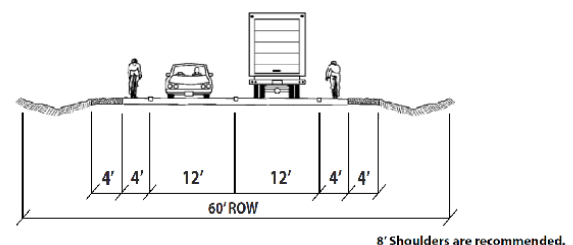
**K (Minor Thoroughfare):** Two-lane with paved shoulders. 70' ROW



**K  
MINOR THOROUGHFARE**

Figure 10 B-4 Minor Thoroughfare

**B-4 (Minor Thoroughfare):** Two-lane with paved shoulders. 60' ROW



**B-4  
MINOR THOROUGHFARE**

Figure 10 B-4 Minor Thoroughfare

**NOTE: Definitions of terms can be found in Appendix B. All information is subject to change.**

## 2.3 Public Transportation and Rail Map

The Public Transportation and Rail Element of the Plan (see **Figure 2, Sheet 3**) is a way to consider other modes of transportation and to give the public other options of traveling from one place to another.

### Rail Recommendations

Railroads were the backbone of the transportation system in the United States in the early 1800s. In the 1920s, society moved toward utilizing automobile as their primary source of transportation. Today, there is more of an interest in utilizing the railroad as an alternative mode of transportation for commuting to work and to facilitate the movement of freight.

The County currently has active a rail freight corridor which run north-south and a corridor that runs east-west parallel to US 158. The north-south rail corridor is designated as part of the future Southeast High Speed Rail corridor (SEHSR). For more information about SEHSR, please see the next section.

The east-west rail corridor which runs parallel to US 158 is being preserved for future use. **Figure 2, Sheet 3** shows the Public Transportation and Rail Map of the Warren County Comprehensive Transportation Plan. It also shows above mentioned corridors (SEHSR and US 158) and the recommendations for a park and ride facility and a rail stop in Norlina. It is also recommended that as a part of improvements for the SEHSR, a grade separated crossing of Ridgeway Rd. (SR 1107), west of Norlina, to be constructed and to re-align Ridgeway Rd. (SR 1107) with St. Tammany Rd. (SR 1210) to create a continuous route to I-85 from US 401 by building a bridge over Fishing Creek between Perry Town Road (SR 1116) and Crowder Pond Road (SR 1111) (See Warr008 and Warr010).

### Southeast High Speed Rail Corridor (SEHSR)

The Southeast High Speed Rail Corridor (SEHSR) is one of five originally proposed high speed passenger rail corridors designated by the US Department of Transportation (USDOT) in 1992. The corridor was designated as running from Washington, DC through Richmond, Virginia and Raleigh, NC to Charlotte, NC with maximum speeds of 110 mph. It is part of an overall plan to extend service from the existing high speed rail on the Northeast Corridor (Boston to Washington) to points in the Southeast. (<http://www.sehsr.org/faq.html>)

The USDOT in 1996 extended the SEHSR to Hampton Roads, VA. In 1998, the USDOT created two more extensions (<http://www.sehsr.org/faq.html>):

1. From Charlotte through Spartanburg and Greenville, SC to Atlanta, GA and on through Macon, GA to Jacksonville, FL, and
2. From Raleigh through Columbia, SC and Savannah, GA to Jacksonville, FL and from Atlanta to Birmingham, AL. (<http://www.sehsr.org/faq.html>)

## Current status of SEHSR

The Federal Railroad Administration and the Federal Highway Administration issued a Record of Decision on the initial environmental studies completed in 2002. This confirmed the route for the SEHSR. The project is currently in the second environmental study phase that includes more specific analysis along the preferred route between Richmond, VA and Raleigh, NC. This environmental study is anticipated to be completed by the end of 2010.

The SEHSR was awarded funding in February 2010. This funding focuses on areas in North Carolina and Virginia for incremental improvements along the corridor. For more information about the South East High Speed Rail Corridor, visit: (<http://www.sehsr.org/>)

### For more information:

NCDOT Rail Div., Rail Environmental Programs Manager

919-733-7245

VA DRPT, Manager of Rail Development

804-786-7425

## 2.4 Bicycle and Pedestrian Map

The NCDOT envisions that all citizens of North Carolina and visitors to the state should be able to walk and bicycle safely and conveniently to their chosen destinations with reasonable access to roadways. Information on events, funding, maps, policies, projects, and processes dealing with these modes of transportation can be accessed at the Division of Bicycle and Pedestrian Transportation's web site.

The Bicycle Element of the Warren County Comprehensive Transportation Plan is shown in **Figure 2, Sheet 4**. The facilities identified by the Bicycle Study were incorporated as part of the Bicycle Plan for the Warren County CTP. Before any improvements are made to those facilities, the Division of Bicycle and Pedestrian Transportation should be consulted.

The process of determining and evaluating recommendations for the bicycle element of the transportation plan involves many considerations including the goals and objectives survey of the area, existing properties, environmental impacts, and existing and anticipated land development. For more information about the NCDOT Bicycle and Pedestrian division please go to <http://www.ncdot.org/transit/bicycle>. For more information about the Piedmont-Triad RPO, and its regional bicycle plan, visit: <http://www.ptcog.org/rpobicycle.html>. The format for the Pedestrian Map was not yet finalized when the Warren County CTP was being developed; therefore, no pedestrian map was developed.

### 3. Population, Land Use, and Traffic

---

In order to fulfill the objectives of an adequate thirty-year comprehensive transportation plan, reliable forecasts of future travel patterns must be achieved. Such forecasts depend on careful analysis of the following items: historic and potential population changes; significant economic trends, character and intensity of land development; and the ability of the existing transportation system to meet existing and future travel demand. Other items that influence forecasts include the effects of legal controls such as zoning ordinances and subdivision regulations, availability of public utilities and transportation facilities, and topographic and other physical features of the urban area.

#### 3.1 Population

The volume of traffic on a roadway is related to the size and distribution of the population that it serves. Future population estimates typically rely on the observance of past population trends. (**Table 1** reflects the population trends and projections for Warren County and North Carolina). Population growth in an urban area is typically 1-3% annually. The population of Warren County shows average growth rate of 1.0% per year through 2030.

**Table 1: Population Growth**

	1970	1980	1990	2000	2010	2020	2030
<b>North Carolina</b>	5,084,411	5,880,095	6,632,448	8,046,807	9,441,440	10,943,973	12,467,232
<b>Warren County</b>	15,340	16,232	17,265	19,972	22,237	24,183	26,522

**Table 1: Warren County Population Growth**

Source: North Carolina State Data Center, 2007.

#### 3.2 Land Use

The transportation demand along a particular facility is related to the type of through traffic on the facility and on the type of land use adjacent to the facility. For example, a retail business generates more trips than an office building. Land uses can be divided into several different classifications. **Figure 3.1** shows the Warren County Existing Land Use Patterns. **Figure 3.2** shows the Future Land Use Patterns for Warren County adopted March 11, 2002. Warren County has divided their land uses into the following categories: residential and agricultural uses; commercial uses; industrial uses; office and institutional uses, recreation

uses, public uses, green space-preservation uses and mixed-use. These groupings are based on the County zoning districts. The vast majority of the land outside the urban areas is zoned residential and agricultural. The spatial distribution of varying land uses is the predominant determinant of when, where, and why congestion occurs. The attraction between different land uses and their association with travel varies with the size, type, intensity, and spatial separation of each land use. When dealing with transportation planning, land use is divided into the following classifications:

- ❑ Residential – All land is devoted to the housing of people, with the exception of hotels and motels.
- ❑ Commercial – All land is devoted to retail trade including consumer and business services and their offices; this may be further stratified into retail and special retail classifications. Special retail would include high-traffic establishments, such as fast-food restaurants and service stations; all other commercial establishments would be considered retail.
- ❑ Industrial – All land is devoted to the manufacturing, storage, warehousing, and transportation of products.
- ❑ Public – All land is devoted to social, religious, educational, cultural, and political activities; this would include the office and service employment establishments.
- ❑ Recreational - All land is devoted to recreation, parks and walking trails.



# Existing Land Use Patterns

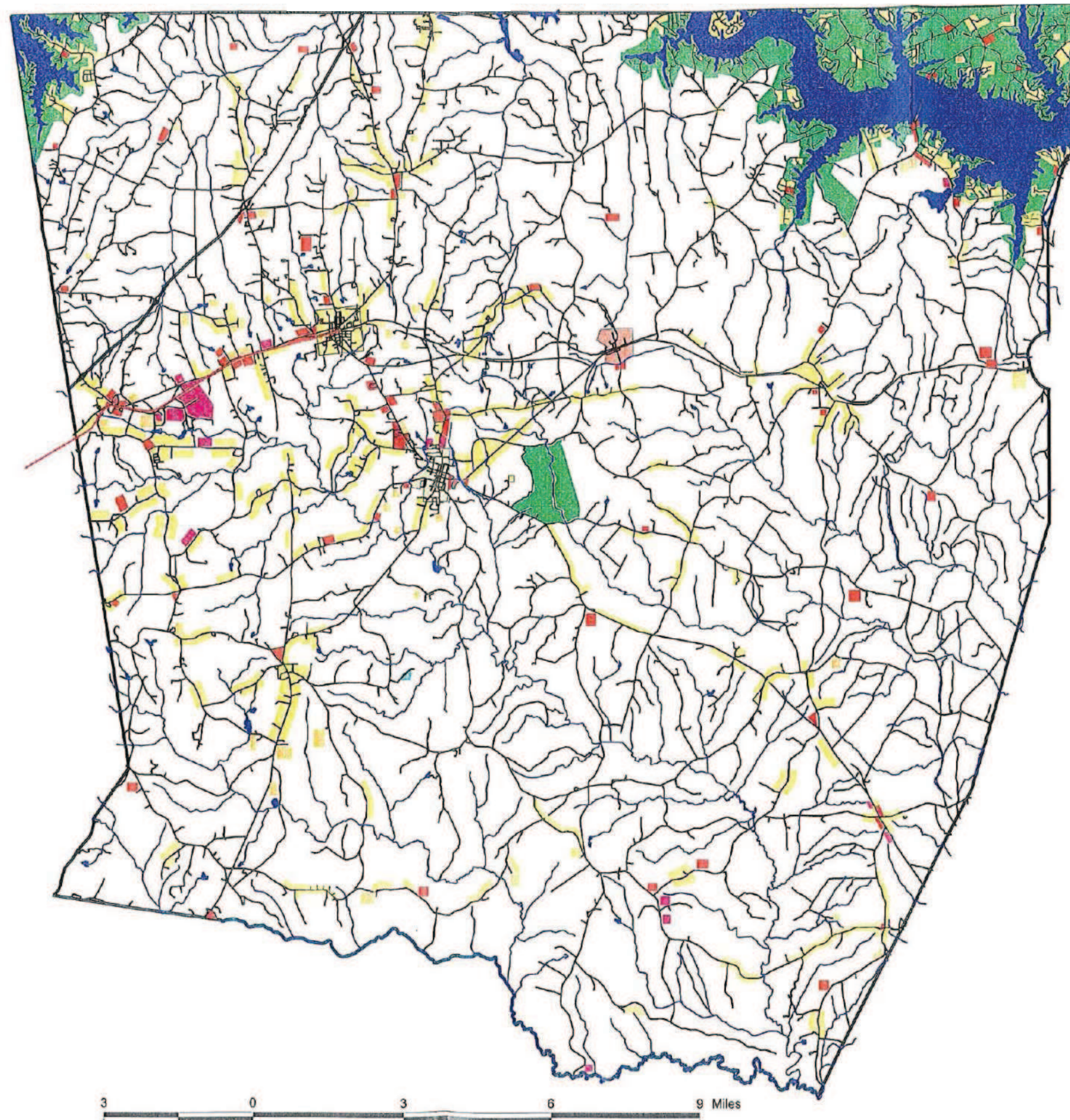
## Warren County Comprehensive Transportation Plan

Figure 3.1

Plan date: 10/2000

### Legend

-  Active Rail Line
-  Surface Waters
-  Roads (Primary/Secondary)
- Incorporated Municipalities**
-  Macon
-  Norlina
-  Warrenton
-  PCB Landfill
-  County Boundary/Open Space
-  Residential
-  Commercial
-  Industrial
-  Public/Quasi-Public
-  Recreation (Mixed Residential-Lake Areas)



Map created by the Kerr-Tar Regional C.O.G 10/2000

Map formatted to fit NCDOT-TPB Map template - 2/2010

Data Sources: Field research (windshield surveys-  
Summer 2000)

Warren County Manager's Office, EDC, Public Works  
Dept., CGIA, FEMA



# Future Land Use Patterns

## Warren County Comprehensive Transportation Plan

**Figure 3.2**

Plan date: 3/2002

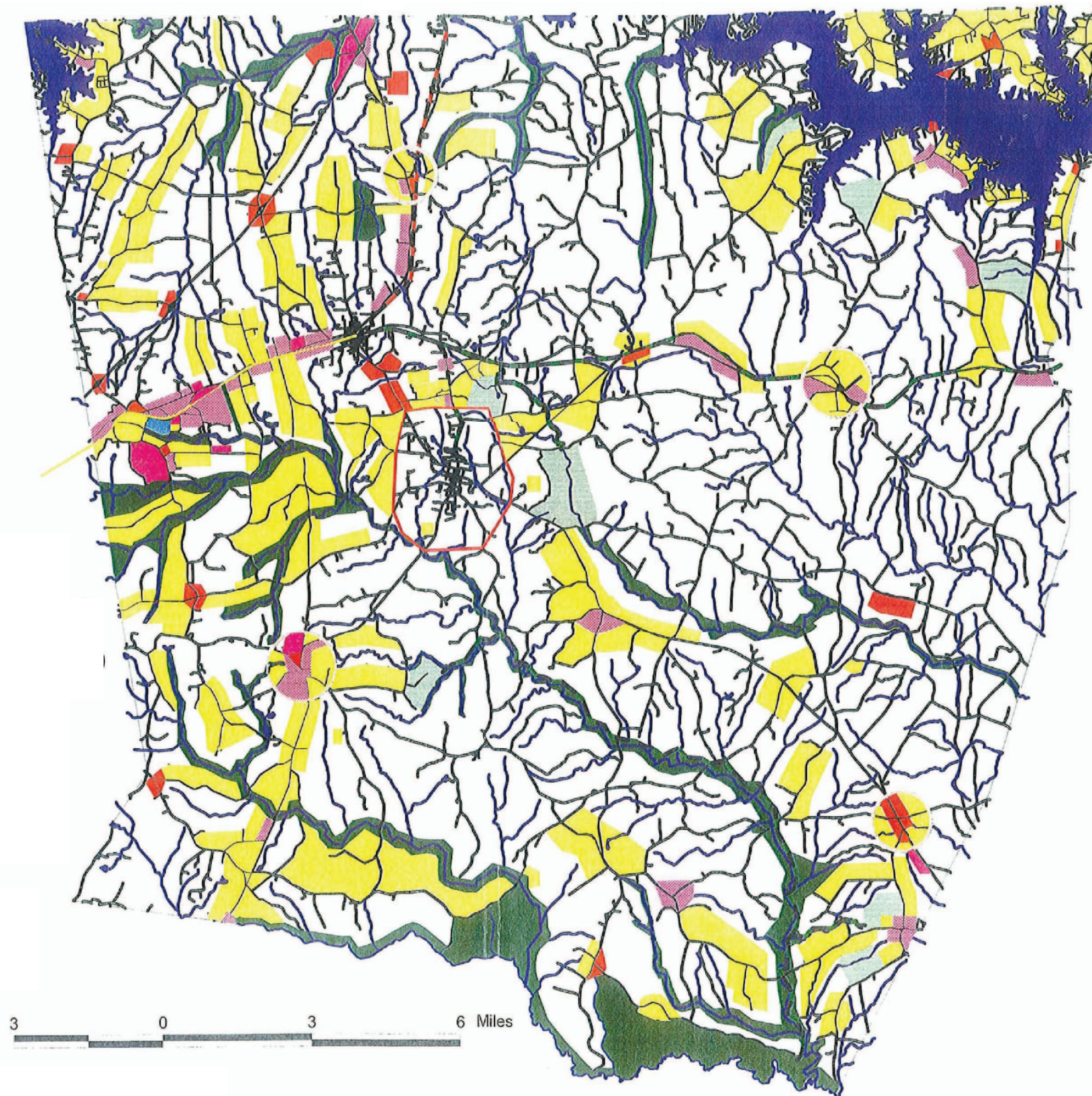
### Legend

-  Surface Waters (Lakes-Creeks-Streams)
-  Active Rail Line
-  Rail Easement (Potential High Speed Rail)
-  Greenway (Walking-Biking Trail)
-  Roads
-  Warrenton ETJ Limits
-  Residential
-  Incorporated Municipalities
-  Agricultural Residential (Open Space)
-  Industrial
-  Recreation
-  Office/Institutional
-  Public/Quasi-Public
-  Commercial
-  Greenspace-Preservation Area
-  Mixed-Use
-  Crossroads Community

Map formatted to fit NCDOT-TPB Map template - 2/2010

Data Sources: Warren County Land Use Committee,  
Warren County public work sessions, and C.O.G. Planning  
Staff 1/01 to 10/01.

Adopted March 11, 2002





### 3.3 Existing Transportation System

An important stage in the development of a transportation plan is the analysis of the existing roadway system and its ability to serve the area's travel desires. Emphasis is placed not only on detecting the existing deficiencies, but also on understanding the causes of these deficiencies. Travel deficiencies may be localized, resulting from problems with inadequate pavement width, intersection geometry, or intersection controls. Travel deficiencies may also result from system problems, such as the need to construct missing travel links, bypass routes, loop facilities, or additional radial routes.

An analysis of the roadway system looks at both current and future travel patterns and identifies existing and anticipated deficiencies. This is usually accomplished through a traffic crash analysis, roadway capacity deficiency analysis, and a system deficiency analysis. This information is used to analyze factors that will impact the future system, including population growth, economic development potential, and land use trends. For more information, see **Figures 4 and 5**.

### 3.4 Bridge Conditions

Bridges are an important element of a highway system. If a bridge is not up to safe design standards it can decrease the efficiency of the entire transportation system. Therefore, bridges must be constructed to the same, or higher, design standards as the rest of the system and must be inspected regularly to ensure the safety of the traveling public.

The NCDOT Bridge Maintenance Unit inspects all bridges in North Carolina at least once every two years. A sufficiency rating for each bridge is calculated and establishes the eligibility and priority for replacement. Bridges having the highest priority are replaced as Federal and State funds become available. A bridge is considered deficient if it is either Structurally Deficient or Functionally Obsolete. A bridge at least ten years old is considered structurally deficient if it is in relatively poor condition or has insufficient load-carry capacity due to either the original design or to deterioration. The bridge is considered functionally obsolete if it is narrow, has inadequate under-clearances, has insufficient load-carrying capacity, is poorly aligned with the roadway, and/or can no longer adequately serve existing traffic.

A bridge must be classified as deficient in order to qualify for Federal replacement funds. In addition, the bridge must have a certain sufficiency rating to qualify for these funds. To qualify for replacement, the sufficiency rating must be less than 50%; for rehabilitation, the sufficiency rating must be less than 80%. Deficient bridges within Warren County are given in **Table 2**.



**Table 2: Deficient Bridges in Warren County**

COUNTY	Bridge Number	ROUTE	ACROSS	Structurally Deficient/Functionally Obsolete
WARREN	2	US1	I85	Functionally Obsolete
WARREN	3	SR1001	FISHING CREEK	Structurally Deficient
WARREN	4	US401	SHOCCO CREEK	Functionally Obsolete
WARREN	9	NC58	LITTLE SHOCCO CREEK	Functionally Obsolete
WARREN	10	SR1237	I85	Functionally Obsolete
WARREN	11	SR1107	OWEN'S CREEK	Functionally Obsolete
WARREN	12	SR1112	FISHING CREEK	Functionally Obsolete
WARREN	14	SR1521	REEDY POND CREEK	Structurally Deficient
WARREN	17	SR1526	OVERFLOW	Functionally Obsolete
WARREN	20	SR1100	FISHING CREEK	Structurally Deficient
WARREN	23	SR1218	ELLINGTONS CREEK	Functionally Obsolete
WARREN	25	SR1206	SMITH CREEK	Functionally Obsolete
WARREN	36	SR1304	HAWTREE CREEK	Structurally Deficient
WARREN	38	SR1306	SIX POUND CREEK	Structurally Deficient
WARREN	40	SR1224	I85	Functionally Obsolete
WARREN	42	SR1613	SHOCCO CREEK	Functionally Obsolete
WARREN	43	SR1620	SHOCCO CREEK	Functionally Obsolete
WARREN	45	SR1600	FISHING CREEK	Structurally Deficient
WARREN	74	SR1641	LONG BRANCH	Structurally Deficient
WARREN	75	SR1630	FISHING CRK.	Functionally Obsolete
WARREN	77	SR1640	FISHING CREEK	Functionally Obsolete
WARREN	80	SR1314	HAWTREE CREEK	Functionally Obsolete

**Table 2: Deficient Bridges in Warren County Continued**

COUNTY	BRIDGE NUMBER	ROUTE	ACROSS	Structurally Deficient/Functionally Obsolete
WARREN	86	SR1606	POSSUM QUARTER CREEK	Functionally Obsolete
WARREN	89	SR1510	LITTLE FISHING CREEK	Structurally Deficient
WARREN	107	SR1224	SMITH CREEK	Structurally Deficient
WARREN	124	SR1510	REEDY POND CREEK	Structurally Deficient
WARREN	126	SR1116	PHOEBES CREEK	Structurally Deficient
WARREN	132	SR1631	TRIB. OF FISHING	Functionally Obsolete
WARREN	135	SR1609	FISHING CREEK	Functionally Obsolete
WARREN	139	NC903	LAKE GASTON	Structurally Deficient

Source: NC DOT Bridge Maintenance Unit, 2007

### 3.5 Traffic Crash Analysis

Traffic accidents or “crashes” are often used as an indicator for locating safety or design problems. While often the result of drivers or vehicle performance, crashes may also be a result of the physical characteristics of the roadway. Roadway conditions and obstructions, traffic conditions, and weather may all lead to a crash. While some crashes are the fault of the driver, others may be prevented with physical design changes or traffic control changes such as the installations of stop signs or traffic signals.

Crash data for the period from January 1, 2005 to January 1, 2008 was studied as part of the development for this plan. The crash analysis considered both frequency and severity (see Table 3). Frequency is the total number of reported crashes, while severity is based upon injuries and property damage incurred. These two factors help to determine high crash intersections. For a list of intersections in Warren County with crash frequency and severity listed, go to **Table 3** below.

To request a more detailed analysis for any of the locations or intersections of concern, contact the Division 5 Traffic Engineer. Contact information for the Division 5 Traffic Engineer is included in **Appendix A**.

Table 3: Crash Frequency and Severity in Warren County					
Total Crashes	Average Severity				
61	6.28				
Severity at High Accident Intersections					
Road A	Road B	Severity Index	No. of Crashes	Total No. Injuries	Estimated Property Damage
I-85	SR 1224	10.48	8	16	\$70,110
I-85	US 1	8.54	13	34	\$67,700
SR 1636	SR 1640	8.4	5	5	\$23,000
US 158	US 158	5.44	5	14	\$57,950
US 1	SR 1210	4.7	6	6	\$60,895
I-85	SR 1210	4.7	6	8	\$58,100
US 1	SR 1107	4.17	7	10	\$31,129
US 158	SR 1305	3.47	6	14	\$29,300
US 1	SR 1237	2.48	5	8	\$11,900
Totals			61	115	\$410,084

Source: NC Division of Motor Vehicles, 2008

### 3.6 Existing and Projected Capacity Deficiencies

Roadway capacity deficiencies occur when the travel demand volume of a roadway exceeds the capacity of that roadway. Travel demand volume is the total number of vehicles that wish to use a roadway on a daily basis. The existing volumes for the County are based upon traffic count data taken annually by the NCDOT Traffic Surveys Group. Volume to capacity ratios (V/C) have been calculated for the 2004 base year and are shown in **Figure 4**.

Historic trend analysis was utilized to estimate 2035 volumes. Other factors such as historic and anticipated population, economic growth patterns, and land use trends were utilized for the traffic projections. The projected 2035 travel demand volume to capacity ratios, based on the historic trend projections are shown in **Figure 5**.

Capacity is the maximum number of vehicles that can pass over a given section of roadway during a given time period under prevailing roadway and traffic conditions. Many factors contribute to the capacity of a roadway, including:

- ❑ Geometry of the road, including number of lanes, horizontal and vertical alignment, and proximity of perceived obstructions to safe travel along the road;
- ❑ Typical users of the road, such as commuters, recreational travelers, and truck traffic;
- ❑ Access control, including streets and driveways, or lack thereof, along the roadway;
- ❑ Development of the road, including residential, commercial, and industrial developments;
- ❑ Number of traffic signals along the route;

- ❑ Peaking characteristics of the traffic on the road;
- ❑ Characteristics of side-roads feeding into the road; and
- ❑ Directional split of traffic or the percentages of vehicles traveling in each direction along a road at any given time.

The relationship of travel demand volume to roadway capacity determines the level-of-service (LOS) of a roadway. Six distinct levels-of-service are identified, with letter designations ranging from LOS A, which represents the best operating conditions, to LOS F, which represents the worst operating conditions. LOS D indicates “practical capacity” of a roadway, or the capacity at which the public begins to express dissatisfaction. The six levels-of-service are illustrated in **Figure 6**.



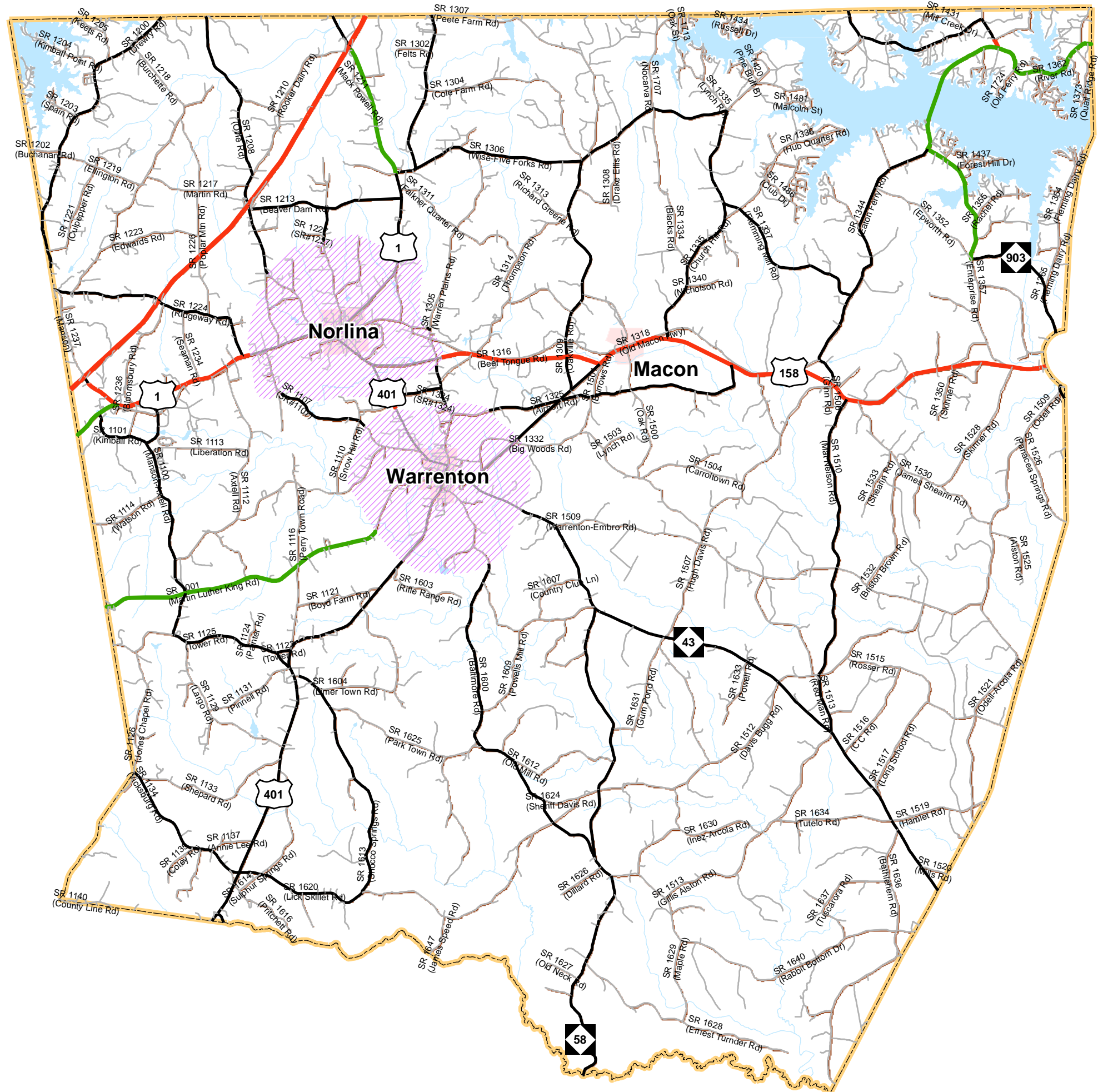
# 2035 Capacity Deficiencies

## Warren County

### Comprehensive Transportation Plan

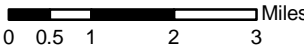
Figure 4

Plan date: 11/20/2008



#### V/C Ratios of Network Roads

- Roads
- V/C Ratio Over Capacity (>1.0)
- V/C Ratio Near Capacity (0.8 - 1.0)
- V/C Ration Not Near Capacity (<0.8)
- Planning Area Boundary
- Hydrology
- Municipalities





# Estimated Future Year Traffic Volumes

## Warren County

### Comprehensive Transportation Plan

Figure 5

Plan date: 11/20/2008

#### Legend

- Roads
- Traffic Count Locations
- Schools
- Planning Area
- Hydrology
- Municipalities
- County Boundary
- Planning Area Boundary
- AADT Box

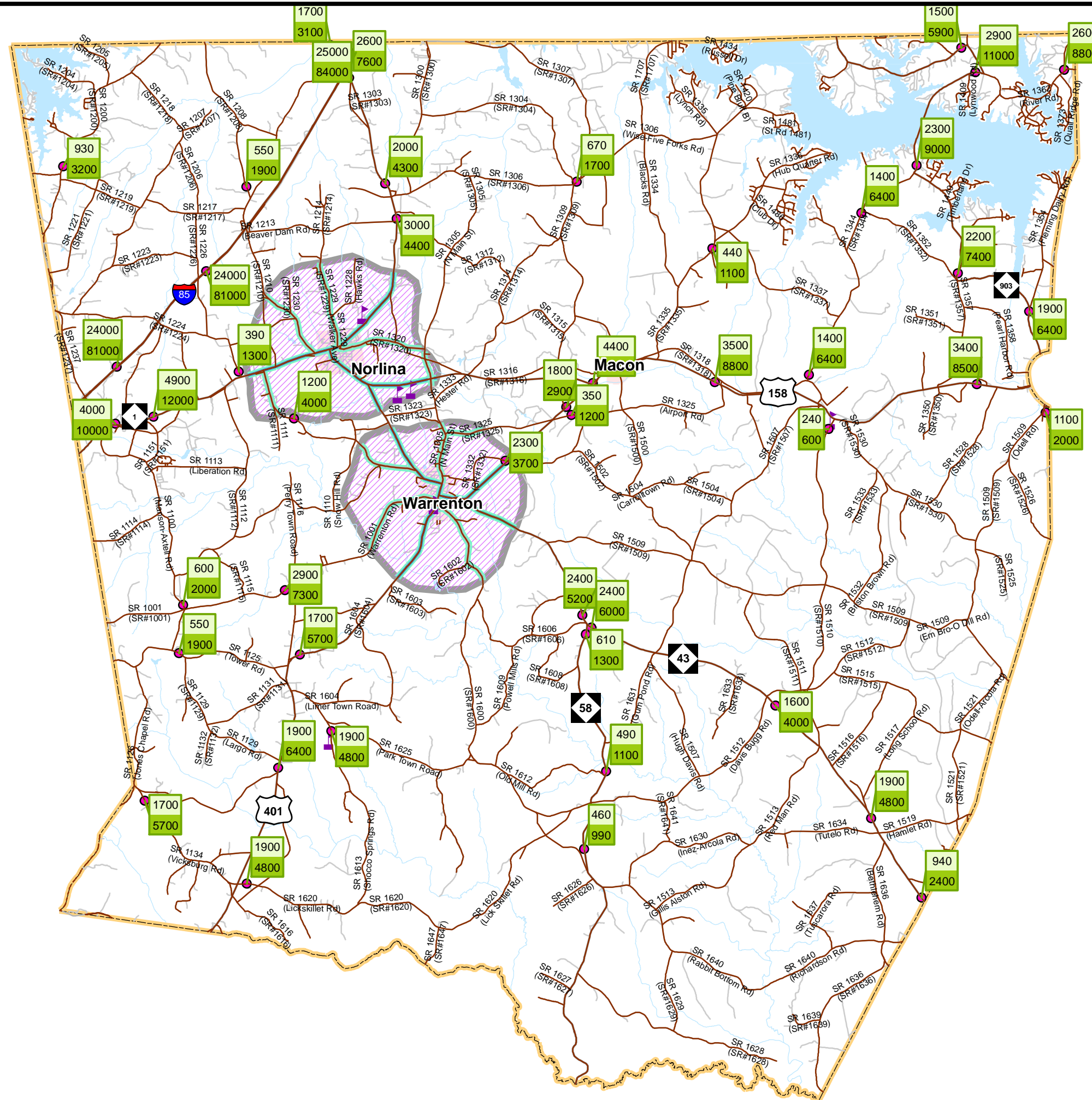
Numbers in the AADT Boxes  
are arranged as follows:

2004 AADT

2035 AADT



0 0.5 1 2 3 Miles





**Figure 6: Level of Service Descriptions**

Design requirements for roadways vary according to the desired capacity and level-of-service. Recommended improvements and overall design of the Transportation Plan were based upon achieving a minimum LOS C.

### 3.7 Environmental Screening

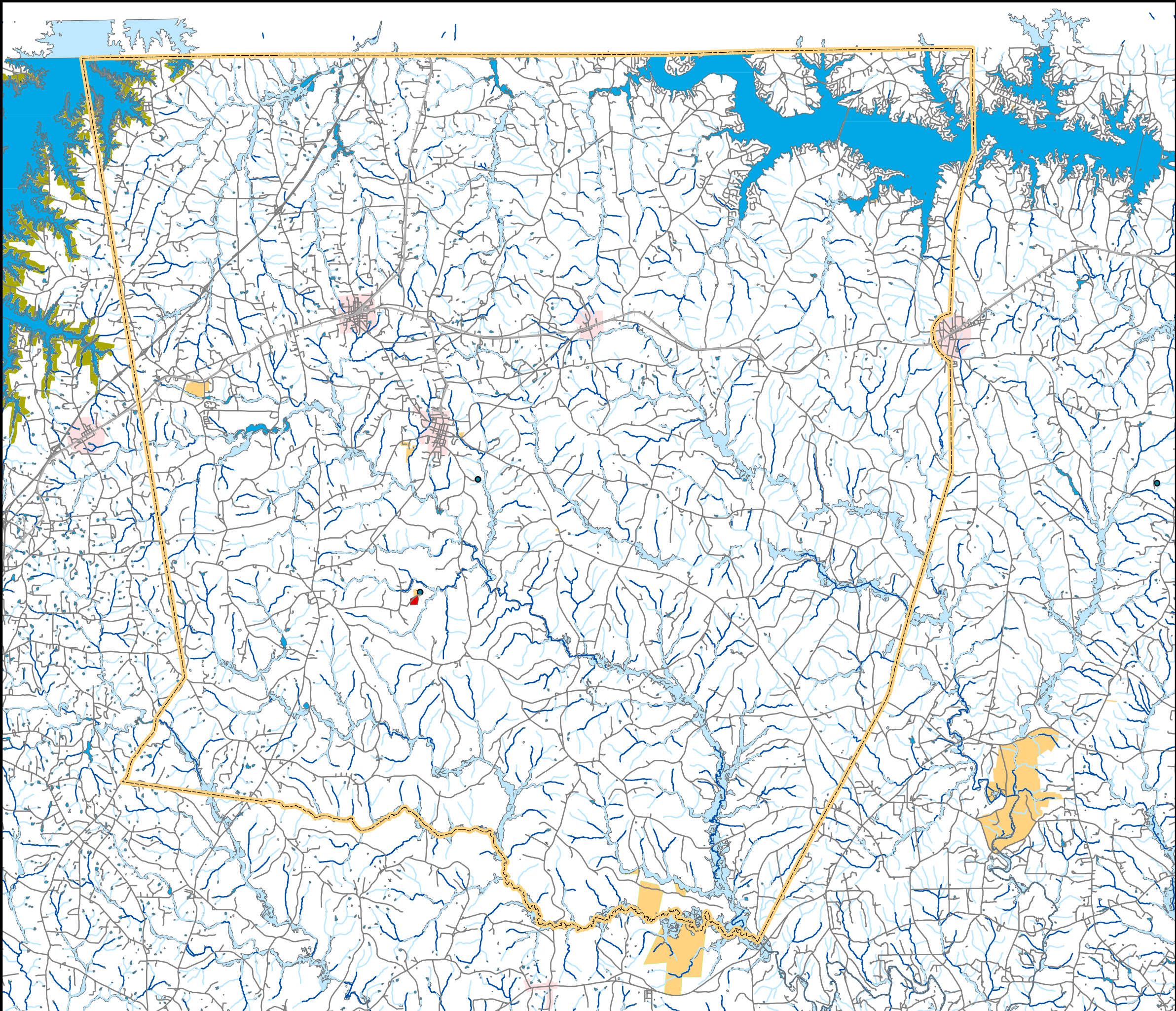
In recent years, the environmental considerations associated with transportation construction have come to the forefront of the planning process. Section 102 of the National Environmental Policy Act (NEPA) requires the completion of an Environmental Impact Statement (EIS) for projects that have a significant impact on the environment. The EIS includes impacts on wetlands, wildlife, water quality, historic properties, and public lands. While this report does not cover the environmental concerns in as much detail as an EIS would, consideration for many of these factors was incorporated into the development of the Comprehensive Transportation Plan. These factors were also incorporated into the recommended improvements. Environmental features found in the study area are shown in Figure 7.



### 3.7.1 Wetlands

Wetlands are those lands where saturation with water is the dominant factor in determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface. Wetlands are crucial ecosystems in our environment. They help regulate and maintain the hydrology of our rivers, lakes, and streams by storing and slowly releasing floodwaters. Wetlands help maintain the quality of water by storing nutrients, reducing sediment loads, and reducing erosion. They are also critical to fish and wildlife populations by providing an important habitat for approximately one-third of the plant and animal species that are federally listed as threatened or endangered.

The National Wetland Inventory shows several wetlands throughout the study area. See **Figure 7** for more information.



# Environmental Data

WARREN COUNTY

Comprehensive  
Transportation Plan

FIGURE 7

## Legend

- Roads
- Railroads
- Water Bodies
- Solid Waste Facilities
- National Wetland Inventory
- National Wetland Inventory
- Hazardous Substance Disposal Sites
- State Owned Complex
- Federaland Ownership
- Gamelands
- County Boundary
- Municipiial Boundary

0 0.5 1 2 3 Miles



Refer to CTP document for more details

### 3.7.2 Threatened and Endangered Species

The Threatened and Endangered Species Act of 1973 allows the U. S. Fish and Wildlife Service to impose measures on the Department of Transportation to mitigate the environmental impacts of a transportation project on endangered animal and plant species, as well as critical wildlife habitats. Locating any rare species that exist within the study area during this early planning stage will help to avoid or minimize impacts.

A preliminary review of the Federally Listed Threatened and Endangered Species in the study area was completed to determine what effects, if any, the recommended improvements may have on wildlife. Mapping from the N.C. Department of Environment and Natural Resources revealed occurrences of threatened or endangered plant and/or animal species in the study area, which are summarized in **Table 4**. These species are not impacted by any recommendations found in the Comprehensive Transportation Plan.

**Table 4: Threatened or Endangered Species**

Species	Common Name	Major Group	Federal Status
<i>Anguilla rostrata</i>	American Eel	Vertebrate	FSC
<i>Aimophila aestivalis</i>	Bachman's Sparrow	Vertebrate	FSC
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Vertebrate	BGPA
<i>Lythrurus matutinus</i>	Pinewoods Shiner	Vertebrate	FSC
<i>Ambloplites cavifrons</i>	Roanoke Bass	Vertebrate	FSC
<i>Fusconaia masoni</i>	Atlantic Pigtoe	Invertebrate	FSC
<i>Alasmidonta heterodon</i>	Dwarf Wedgemussel	Invertebrate	E
<i>Elliptio steinstansana</i>	Tar River Spiny mussel	Invertebrate	E
<i>Elliptio lanceolata</i>	Yellow Lance	Invertebrate	FSC
<i>Lotus unifoliolatus</i> var. <i>helleri</i>	Prairie Birdsfoot trefoil	Vascular Plant	FSC

Source: NC Department of Environmental and Natural Resources, 2007



### 3.7.3 Historic Sites

Section 106 of the National Historic Preservation Act requires the Department of Transportation to identify historic properties listed in, as well as eligible for, the National Register of Historic Places (NRHP). The NCDOT must consider the impacts of transportation projects on these properties and consult with the Federal Advisory Council on Historic Preservation.

N.C. General Statute 121-12(a) requires the NCDOT to identify historic properties listed on the National Register, but not necessarily those that are eligible to be listed. The NCDOT must consider the impacts and consult with the N.C. Historical Commission, but is not bound by their recommendations.

The location of historic sites within the study area was investigated to determine any possible impacts resulting from the recommended improvements. The following table is an inventory of all historic properties that are located within the Warren County Planning Area and listed in the National Register of Historic Places. No recommendations impact these historic sites. **Table 5** shows a complete list of historic sites within Warren County.

<b>Table 5: National Register of Historic Places</b>		
<b>Property Name</b>	<b>Year Added</b>	<b>Location</b>
Mary Anne Brown House	1986	SR 1530 (Vaughn)
Buck Springs Plantation	1970	SR 1348 (Vaughn)
Buxton Place	1993	NC 58 (Inez)
Chapel of the good Shepherd	1977	SR 1107 (Ridgeway)
Cherry Hill	1974	NC 58 (Inez)
Coleman White House	1973	Halifax Street, Warrenton
Dalkeith	1974	NC 43 (Arcola)
Green Duke House	1974	SR 1100 (Soul City)
Elgin	1973	SR 1509 (Warrenton)
William J. Hawkins House	1978	SR 1103 (Ridgeway)
Hebron Methodist Church	1984	SR 1306 (Oakville)
Lake O' Woods	1979	SR 1512 (Inez)
Little Manor (Mosby Hall)	1973	Littleton Vicinity
Reedy Rill	1974	SR 1600 (Warrenton)
Shady Oaks (Cheek-Twitty)	1976	SR 1600 (Warrenton)
Sledge-Hayley House	1980	Franklin Street, Warrenton
Mansfield Thornton House	1977	SR 1600 (Warrenton)

**Table 5: National Register of Historic Places Continued**

<b>Property Name</b>	<b>Year Added</b>	<b>Location</b>
Tusculum	1974	SR 1635 (Arcola)
Warrenton Historic District	1976	Main St., Downtown, Warrenton
John Watson House	1990	SR 1121, Warrenton
Warren County Fire Tower	2000	NC 58, Liberia Vicinity
Dr. Charles Skinner Farm	2000	SR 1528, Littleton Vicinity
Solomon and Kate William House	2003	NC 58 and SR 1626, Inez
Liberia Rosenwald School	2005	NC 58, Warrenton Vicinity
Warren County Training School	2006	Wise Vicinity

Source: National Register of Historic Places, 2007

### **3.7.4 Archaeological Sites**

The location of recorded archaeological sites was researched to determine the possible impacts of proposed roadway projects. This initial investigation revealed that to date, 233 archaeological sites have been recorded in Warren County. Sites have been recorded either as a result of compliance-generated archaeological surveys, or by citizens who have found artifacts. Undoubtedly, more sites exist, as archaeological sites are often difficult to identify without actual field excavation. As a result, possible sites may not be identified during the initial planning process; therefore, each proposed project should be evaluated individually prior to construction.

### **3.7.5 Educational Facilities**

The location of educational facilities in the planning area was considered during the development of the transportation plan. No recommendations will displace any school or other educational facility.



## **4. Public Involvement**

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### **4.1 Overview**

Since the passage of the Federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), the emphasis on public involvement in transportation has taken on a new role. Although public participation has been an element of long range transportation planning in the past, these regulations call for a much more proactive approach. The NCDOT's Transportation Planning Branch has a long history of making public involvement a key element in the development of any long-range transportation plan, no matter the size of the area. This chapter is designed to provide an overview of the public involvement elements implemented into the development of the transportation plan for the town.

### **4.2 Study Initiation**

The Warren County CTP study was initiated in April 2005. The Transportation Planning Branch met with Warren County officials on April 15, 2005 to identify the primary transportation concerns and to define the scope of the study.

### **4.3 Public Hearings**

A public hearing was held by the Warren County Board of Commissioners with representatives from the Warrenton, Norlina, and Macon Town Boards during a regularly scheduled meeting of the Warren County Commissioners in the Warren County Courthouse on October 2, 2007. The County sent out notice of public hearing for the CTP through their standard procedures, which included posted flyers and newspaper listings. At this meeting, the CTP plan was presented to the County and Town Commissioners and upon discussion, the County asked for more time to consider the plan documents.

The CTP was subsequently adopted by the Warren County Commissioners on November 5, 2007, by a vote of 5-0. It was later adopted by the Town of Macon on October 9, 2007, the Town of Warrenton on November 12, 2007, and the Town of Norlina on April 7, 2008. The Kerr-Tar RPO endorsed the plan on March 17, 2008 at their regularly scheduled meeting. The North Carolina Board of Transportation adopted the Warren County CTP on June 6, 2008.



**Figure 8: Warren County Public Hearing Letter**



**WARREN COUNTY BOARD OF COMMISSIONERS**

POST OFFICE BOX 619  
WARRENTON, NORTH CAROLINA 27589  
Telephone: (252) 257-3115 Fax: (252) 257-5971  
www.warrencountync.com

Clinton G. Alston, Chairman  
Ulysses S. Ross, Vice Chairman  
Barry Richardson  
Ernest Fleming  
William (Bill) Davis

Linda T. Jones  
County Manager

Angelena Kearney-Dunlap  
Clerk to the Board

**MINUTES FROM A PUBLIC HEARING TO ADOPT  
WARREN COUNTY'S COMPREHENSIVE TRANSPORTA-  
TION PLAN (CTP) HELD BY THE BOARD OF COUNTY  
COMMISSIONERS WITH WARRENTON TOWN BOARD,  
NORLINA TOWN BOARD AND MACON TOWN BOARD IN  
THE WARREN COUNTY COURTHOUSE, ROOM # 202 ON  
OCTOBER 2, 2007 AT 7:00 PM.**

The Public Hearing was called to order by Chairman Clinton G. Alston. Other Commissioners present: William "Bill" Davis, Ernest Fleming, Barry M. Richardson and Ulysses S. Ross. Others in attendance: Linda T. Jones, County Manager and Barry Mayo, Finance Director.

Representatives from the Town of Warrenton: Mayor Walter Gardner, Town Commissioners Jules Banzet, Travis Pulley, Graham Boyd, and Town Administrator John Freeman

Representative from the Town of Norlina: Mayor Walter Newman

Representative from the Town of Macon: Mayor Carroll Harris

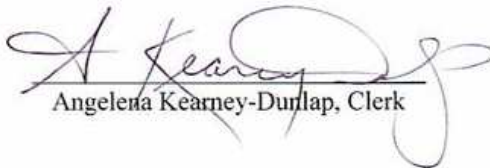
Notice of public hearing was read by the Clerk to the Board.

There were no citizen comments.

Sara Sherman of Department of Transportation's Planning Branch provided draft maps of Warren County's Comprehensive Transportation Plan for Board and public review. Ms. Sherman gave a brief overview of proposed plan.

Warrenton Mayor Walter Gardner spoke in favor of proposed plan and stated that outer loop of by-pass will aid in removing heavy truck traffic from passing through downtown. Economic Development usually occurs at outer loop.

Chairman Alston adjourned the public hearing at 7:15 pm.

  
Angelena Kearney-Dunlap, Clerk

## 5. Conclusion

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The transportation system in Warren County will require improvements over the next thirty years. It is the responsibility of the County and its towns to take the initiative for the implementation of the Comprehensive Transportation Plan. It is imperative that the local area aggressively pursues funding for desired projects. Questions regarding funding, projects, planning, and modes of transportation should be addressed to the appropriate branches within NCDOT. Appendix A includes contact information for these branches. If changes are required for any element of the Comprehensive Transportation Plan, then all other elements must be reviewed for resulting impacts.



## **Appendix A: NCDOT Contacts**



## North Carolina Department of Transportation

### Customer Service Office

1-877-DOT4YOU  
(1-877-368-4968)

### Secretary of Transportation

1501 Mail Service Center  
Raleigh, NC 27699-1501  
(919) 733-2520

### Board of Transportation Member

Contact Information for the current Board of Transportation member may be accessed from the NCDOT homepage on the Internet at:

<http://www.ncdot.org/about/board/agenda.html>

Or by calling 1-800-DOT4YOU.

## NCDOT Contacts

### Highway Division 5

The following table lists the appropriate NCDOT Division and District contact information for Warren County. All questions or requests for construction, operations and maintenance should be forwarded to the appropriate sections within the Division.

#### ***Division Engineer***

Contact the Division Engineer with general questions concerning NCDOT activities within Division 5.

2612 N Duke Street  
Durham, NC 27704  
(919) 220-4600

#### ***Division Construction Engineer***

Contact the Division Construction Engineer for information concerning major roadway improvements under construction.

2612 N Duke Street  
Durham, NC 27704  
(919) 220-4600

#### ***Division Traffic Engineer***

Contact the Division Traffic Engineer for information concerning high-collision locations.

2612 N Duke Street  
Durham, NC 27704  
(919) 220-4600

***District Engineer***

Contact the District Engineer for information regarding Driveway Permits, Right of Way Encroachments, and Development Reviews.

321 Gillburg Road  
Henderson, N.C. 27537  
(252)492-0111

***County Maintenance Engineer***

Contact the County Maintenance Engineer with any maintenance activities, such as drainage, re-paving, dead animals, or roadway conditions.

Route 4, Box 703  
Warrenton, 27589  
(252)257-5624

**NCDOT Contacts****Centralized Personnel*****Transportation Planning Branch***

Contact the Transportation Planning Branch with long-range transportation planning questions and information about this document.

1554 Mail Service Center  
Raleigh, NC 27699-1554  
(919) 733-4705

***Secondary Roads Office***

Contact the Secondary Roads office for information regarding the Industrial Access Funds Program, information about paving priorities, or how to get a road added to the state maintained system.

1535 Mail Service Center  
Raleigh, NC 27699-1534  
(919) 733-2039

***Program Development Branch***

Contact the Program Development Branch for information about current TIP projects, or the current Roadway Official Corridor Maps.

1534 Mail Service Center  
Raleigh, NC 27699-1534  
(919) 733-2039

***Geographic Information Systems Unit (GIS)***

Contact GIS to order County Road maps and for other available maps. Online ordering available at: <http://www.ncdot.org/it/gis/>

New Hope center  
4101 Capital Boulevard  
Raleigh, NC 27604  
(919) 707-2152



**Appendix B: Comprehensive**  
**Transportation Plan Category**  
**Definitions**



## Definitions for Categories

### Highway Map

#### Freeways

- ❑ Functional purpose – high mobility, high volume, high speed
- ❑ Posted speed – 55 mph or greater
- ❑ Cross section – minimum four lanes with continuous median
- ❑ Multi-modal elements – High Occupancy Vehicles/High Occupancy Transit lanes, busways, truck lanes, park-and-ride facilities at/near interchanges, adjacent shared use paths (separate from roadway and outside ROW)
- ❑ Type of access control – full control of access
- ❑ Access management – interchange spacing (urban – one mile; non-urban – three miles); at interchanges on the intersecting roadway, full control of access for 1,000 feet or for 350 feet plus 650 feet island or median; use of frontage roads, rear service roads
- ❑ Intersecting facilities – interchange or grade separation (no signals or at-grade intersections)
- ❑ Driveways – not allowed

#### Expressways

- ❑ Functional purpose – high mobility, high volume, medium-high speed
- ❑ Posted speed – 45 to 60 mph
- ❑ Cross section – minimum four lanes with median
- ❑ Multi-modal elements – High Occupancy Vehicle lanes, busways, very wide paved shoulders (rural), shared use paths (separate from roadway but within ROW)
- ❑ Type of access control – limited or partial control of access
- ❑ Access management – minimum interchange/intersection spacing 2,000 feet; median breaks only at intersections with minor roadways or to permit U-turns; use of frontage roads, rear service roads; driveways limited in location and number; use of acceleration/deceleration or right turning lanes
- ❑ Intersecting facilities – interchange; at-grade intersection for minor roadways; right-in/right-out and/or left-over or grade separation (no signalization for through traffic)
- ❑ Driveways – right-in/right-out only; direct driveway access via service roads or other alternate connections

#### Boulevards

- ❑ Functional purpose – moderate mobility; moderate access, moderate volume, medium speed
- ❑ Posted speed – 30 to 55 mph
- ❑ Cross section – two or more lanes with median (median breaks allowed for U-turns per *Driveway Manual*)

- ❑ Multi-modal elements – bus stops, bike lanes (urban) or wide paved shoulders (rural), sidewalks (urban - local government option)
- ❑ Type of access control – limited control of access, partial control of access, or no control of access
- ❑ Access management – two-lane facilities may have medians with crossovers, medians with turning pockets or turning lanes; use of acceleration/deceleration or right turning lanes is optional; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged
- ❑ Intersecting facilities – at grade intersections and driveways; interchanges at special locations with high volumes
- ❑ Driveways – primarily right-in/right-out, some right-in/right-out in combination with median leftovers; major driveways may be full movement when access is not possible using an alternate roadway

### **Other Major Thoroughfares**

- ❑ Functional purpose – balanced mobility and access, moderate volume, low to medium speed
- ❑ Posted speed – 25 to 55 mph
- ❑ Cross section – four or more lanes without median
- ❑ Multi-modal elements – bus stops, bike lanes/wide outer lane (urban) or wide paved shoulder (rural), sidewalks (urban)
- ❑ Type of access control – no control of access
- ❑ Access management – continuous left turn lanes; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged
- ❑ Intersecting facilities – intersections and driveways
- ❑ Driveways – full movement on two lane with center turn lane sections (as permitted by the *Driveway Manual*)

### Minor Thoroughfares

- ❑ Functional purpose – balanced mobility and access, moderate volume, low to medium speed
- ❑ Posted speed – 25 to 45 mph
- ❑ Cross section – ultimately three lanes (no more than one lane per direction) or less without median
- ❑ Multi-modal elements – bus stops, bike lanes/wide outer lane (urban) or wide paved shoulder (rural), sidewalks (urban)
- ❑ ROW – no control of access
- ❑ Access management – continuous left turn lanes; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged
- ❑ Intersecting facilities – intersections and driveways
- ❑ Driveways – full movement on two lane with center turn lane as permitted by the *Driveway Manual*

### Definitions

- ❑ Existing – Roadway facilities that are not recommended to be improved.
- ❑ Needs Improvement – Roadway facilities that need to be improved for capacity, safety, or system continuity. The improvement to the facility may be widening, other operational strategies, increasing the level of access control along the facility, or a combination of improvements and strategies. **“Needs improvement” does not refer to the maintenance needs of existing facilities.**
- ❑ Recommended – Roadway facilities on new location that are needed in the future.
- ❑ Interchange – Through movement on intersecting roads is separated by a structure. Turning movement area accommodated by on/off ramps and loops.
- ❑ Grade Separation – Through movement on intersecting roads is separated by a structure. There is no direct access between the facilities.
- ❑ Full Control of Access – Connections to a facility provided only via ramps at interchanges. No private driveway connections allowed.
- ❑ Limited Control of Access – Connections to a facility provided only via ramps at interchanges (major crossings) and at-grade intersections (minor crossings and service roads). No private driveway connections allowed.
- ❑ Partial Control of Access – Connections to a facility provided via ramps at interchanges, at-grade intersections, and private driveways. Private driveway connections shall be defined as a maximum of one connection per parcel. One connection is defined as one ingress and one egress point. These may be combined to form a two-way driveway (most common) or separated to allow for better traffic flow through the parcel. The use of shared or consolidated connections is highly encouraged.
- ❑ No Control of Access – Connections to a facility provided via ramps at interchanges, at-grade intersections, and private driveways.

## **Public Transportation and Rail Map**

- ❑ Bus Routes – The primary fixed route bus system for the area. Does not include demand response systems.
- ❑ Fixed Guideway – Any transit service that uses exclusive or controlled rights-of-way or rails, entirely or in part. The term includes heavy rail, commuter rail, light rail, monorail, trolleybus, aerial tramway, also includes plane, cable car, automated guideway transit, and ferryboats.
- ❑ Operational Strategies – Plans geared toward the non-single occupant vehicle. This includes but is not limited to High Occupancy Vehicle (HOV) lanes or express bus service.
- ❑ Rail Corridor – Locations of railroad tracks that are either active or inactive tracks. These tracks were used for either freight or passenger service.
  - ❑ Active – rail service is currently provided in the corridor; may include freight and/or passenger service.
  - ❑ Inactive – right-of-way exists; however, there is no service currently provided; tracks may or may not exist.
- ❑ Recommended – It is desirable for future rail to be considered to serve an area.
- ❑ High Speed Rail Corridor – Corridor designated by the U.S. Department of Transportation as a potential high-speed rail corridor.
  - ❑ Existing – Corridor where high-speed rail service is provided (there are currently no existing high-speed corridors in North Carolina).
  - ❑ Recommended – Proposed corridor for high-speed rail service.
- ❑ Rail Stop – A railroad station or stop along the railroad tracks.
- ❑ Intermodal Connector – A location where more than one mode of public transportation meets such as where light rail and a bus route come together in one location or a bus station.
- ❑ Park and Ride Lot – A strategically located parking lot that is free of charge to anyone who parks a vehicle and commutes by transit or in a carpool.

## **Bicycle Map**

### *On-Road*

- ❑ Existing – Conditions for bicycling on the highway facility are adequate to safely accommodate cyclists.
- ❑ Needs Improvement – At the systems level, it is desirable for the highway facility to accommodate bicycle transportation; however, highway improvements are necessary to create safe travel conditions for the cyclists.
- ❑ Recommended – At the systems level, it is desirable for a recommended highway facility to accommodate bicycle transportation. The highway should be designed and built to safely accommodate cyclists.

### *Off-Road*

- ❑ Existing – A facility that accommodates bicycle transportation (may also accommodate pedestrians, i.e. a greenway) and is physically separated from a highway facility usually on a separate right-of-way.
- ❑ Needs Improvement – A facility that accommodates bicycle transportation (may also accommodate pedestrians, e.g. greenways) and is physically separated from a highway facility usually on a separate right-of-way that will not adequately serve future bicycle needs. Improvements may include but are not limited to widening, paving (not re-paving), and improved horizontal or vertical alignment.
- ❑ Recommended – A facility needed to accommodate bicycle transportation (may also accommodate pedestrians, e.g. greenways) and is physically separated from a highway facility usually on a separate right-of-way. This may also include greenway segments that do not necessarily serve a transportation function but intersect recommended facilities on the highway map or public transportation and rail map.





**Appendix C: Comprehensive**  
**Transportation Plan**  
**Recommendations and Inventory**



## Warren County CTP, Highway Recommendations

Route	Recommendation	Notes
<b>I-85</b>	Freeway Needs Improvement	Widen to a 6-lane freeway.
<b>US 158</b>	Freeway Needs Improvement and Recommended	Shown as recommended 4-lane freeway to comply with SHC recommendations. Includes new location bypasses of Macon, Vaughn, Littleton, and Norlina (leading to the Economic Hub Site).
<b>US 401</b>	Boulevard Needs Improvement and Recommended	Shown as recommended 4-lane boulevard to comply with the SHC recommendations.
<b>Warrenton Loop</b>	Boulevard Recommended	Was part of Warrenton CTP which recommended to be built as 2-lanes on 4-lane ROW.
<b>NC 43</b>	Other Major Thoroughfare Needs Improvement	Widen to 2 12-foot lanes with paved shoulders. Currently 10-foot lanes. Serves truck traffic and school bus traffic.
<b>NC 903</b>	Other Major Thoroughfare Needs Improvement	Widen to 2 12-foot lanes with paved shoulders and left turn lanes at major intersections to accommodate both truck traffic and lake (boat trailer) traffic.
<b>NC 58</b>	Other Major Thoroughfare Needs Improvement	Widen to 2 12-foot lanes with paved shoulders. Currently 9-foot lanes. Serves truck traffic and school bus traffic.
Soul City Blvd. (SR 1151)	Minor Thoroughfare Needs Improvement	Widen to 2 12-foot lanes with paved shoulder for truck access to Economic Hub Site.
Perry Town Rd. (SR 1116) and Crowder Pont Rd. (SR 1111)	Minor Thoroughfare Needs Improvement	Widen to 2 12-foot lanes with paved shoulder for a North-South truck route. Also includes a new location bridge to link Perry Town Rd. to Crowder Pond Rd.
St. Tammary Rd. (SR 1210)	Minor Thoroughfare Needs Improvement and Recommended	Realign southern end of Tannery Rd. to Crowder Pond Rd. to complete North-South route. This alignment was coordinated with rail and the South-East High Speed Rail plans.
Ridgeway Rd. (SR 1224)	Minor Thoroughfare Needs Improvement	Widen to 2 12-foot lanes with paved shoulders for better access to I-85 as well as to accommodate a state bicycle route.
Airport Rd. (SR 1325)	Minor Thoroughfare Needs Improvement	Widen to 2 12-foot lanes with paved shoulders (currently 17' pavement in some locations) to accommodate a state bicycle route.
Eaton Ferry Rd. (SR 1344)	Minor Thoroughfare Needs Improvement	Widen to 2 12-foot lanes with paved shoulders and left turn lanes at major intersections to accommodate both truck traffic and lake (boat trailer) traffic.
Martin Luther King Jr. Rd. (SR 1001)	Minor Thoroughfare Needs Improvement	Widen to 2 12-foot lanes with paved shoulders. SR 1001 is a major East-West route connecting Warrenton to I-85 in Vance County near Henderson.



## Appendix C: Road Inventory not including CTP project proposals

**Table Key:**

DIST = distance

MI = miles

RDWY = roadway width

ROW = Right-of-Way

VPD = Vehicles Per Day

AADT = Average Annual Daily Traffic

(E,W,N,S) PB = (East, West, North, South) Planning Boundary

CL = City Limit

FACILITY & SECTION	Current Roadway Conditions						Estimated 2035 AADT
	DIST MI	RDWY FT	ROW FT	# of LANES	CURRENT CAPACITY (VPD)	2004 AADT	
<b>I-85</b>							
Vance County Line - Manson Rd. (SR 1237)	0.5	48	250	4	53,700	28,000	94,000
Manson Rd. (SR 1237) - Ridgeway Rd. (SR 1224)	2.3	48	250	4	53,700	24,000	81,000
Ridgeway Rd. (SR 1224) - St. Tammany Rd. (SR 1210)	2.8	48	250	4	53,700	24,000	81,000
St. Tammany Rd. (SR 1210) - US 1	4.1	48	250	4	53,700	24,000	81,000
US 1- NC/VA State Line	0.8	48	250	4	53,700	25,000	84,000
<b>US 1</b>							
Vance County Line - Manson Rd. (SR 1237)	1.1	22	100	2	9,500	3,000	7,500
Manson Rd. (SR 1237) - Old Norlina WPB	2.2	22	100	2	9,500	4,900	12,000
Old Norlina WPB - St. Tammany Rd. (SR 1210)	0.6	23	100	2	9,900	6,600	19,000
St. Tammany Rd. (SR 1210) - Norlina WCL	0.9	23	100	2	9,900	5,400	23,000
Norlina WCL - Terrell Street	0.4	22	60	2	9,000	7,400	25,000
Terrell Street - Hyco Street	0.2	34	60	2	9,800	7,000	18,000
Hyco Street - Rooker Street	0.2	21	60	2	8,700	4,100	9,500
Rooker Street - Norlina ECL	0.5	21	100	2	8,700	2,200	9,500
Norlina ECL - Weldon Rd. (SR 1319)	1.0	21	100	2	8,100	2,200	6,000
Weldon Rd. (SR 1319) - Old Norlina NPB	0.5	21	100	2	8,100	2,200	6,000
Old Norlina NPB - Beaverdam Rd. (SR 1213)	1.2	22	100	2	9,500	2,200	4,100
Beaverdam Rd. (SR 1213) - Dunn Rd. (SR 1212)	0.5	22	100	2	9,500	2,400	4,400
Dunn Rd. (SR 1212) - Young D E Rd. (SR 1303)	2.2	22	100	2	9,500	2,000	4,300
Young D E Rd. (SR 1303) - I-85	0.7	22	100	2	9,500	2,600	7,600
I-85 - NC/VA State Line	0.7	22	100	2	9,500	1,700	3,100
<b>US 158</b>							
Vance County Line - Manson Rd. (SR 1237)	1.1	22	100	2	9,500	3,000	7,500
Manson Rd. (SR 1237) - Old Norlina WPB	2.2	22	100	2	9,500	4,900	12,000
Old Norlina WPB - St. Tammany Rd. (SR 1210)	0.6	23	100	2	9,900	6,600	19,000
St. Tammany Rd. (SR 1210) - Norlina WCL	0.9	23	100	2	9,900	6,600	23,000
Norlina WCL - Terrell Street	0.4	22	60	2	9,000	7,100	25,000
Terrell Street - Norlina SCL	0.7	21	60	2	8,700	8,500	24,000
Norlina SCL - US 158 BYP/BUS	0.5	22	60	2	7,300	9,000	21,000
US 158 BYP/BUS - Macon-Embryo Rd. (SR 1500)	0.7	24	100	2	9,500	4,400	14,800
Macon-Embryo Rd. (SR 1500) - Davis Rd. (SR 1507 (Vaughan))	4.8	24	100	2	9,500	3,500	11,800
Davis Rd. (SR 1507 (Vaughan)) - Bobbitt Rd. (SR 1349)	2.7	24	100	2	9,500	3,500	11,800
Bobbitt Rd. (SR 1349) - Littleton	2.9	24	100	2	9,500	3,400	11,500
<b>US 158 Bypass</b>							
US 1/US 158- Norlina SCL	0.7	21	60	2	8,700	7,000	24,000
Norlina SCL - US 158 BUS	0.5	22	60	2	7,300	8,300	21,000
US 158 BUS - Warren County HS	0.7	21	60	2	7,000	3,700	15,000
Warren County HS - Warren Plains Rd. (SR 1305)	0.7	21	60	2	7,000	3,700	10,000
Warren Plains Rd. (SR 1305) - Old Norlina EPB	0.2	20	60	2	6,600	3,100	10,000
Old Norlina EPB - Oakville Rd. (SR 1309)	2.8	20	100	2	9,300	3,100	10,500
Oakville Rd. (SR 1309) - US 158	0.7	20	100	2	9,300	3,100	10,500
<b>US 158 Business</b>							
US 158 Bypass - Old Norlina SPB	0.7	22	80	2	10,100	4,900	11,000
Old Norlina SPB - Old Warrenton NPB	0.5	22	60	2	9,500	4,900	13,000
Old Warrenton NPB - Tar Heel Tire Avenue	0.7	22	80	2	10,100	4,900	11,000
Tar Heel Tire Avenue - Warrenton NCL	0.2	22	60	2	10,100	4,900	11,000
Warrenton NCL - Ridgeway Rd. (SR 1107)	0.3	45	60	4	19,400	7,400	16,000
Ridgeway Rd. (SR 1107) - Harris Street	0.4	45	60	4	19,400	7,600	16,000
Harris Street - Warren Plains Rd. (SR 1305)	0.3	27	40	2	10,400	6,200	16,000
Warren Plains Rd. (SR 1305) - Macon Street	0.3	34	60	2+Parking	15,000	6,400	19,000



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CL = City Limit

FACILITY & SECTION	Current Roadway Conditions						Estimated 2035 AADT
	DIST MI	RDWY FT	ROW FT	# of LANES	CURRENT CAPACITY (VPD)	2004 AADT	
Macon Street - Warrenton ECL	0.3	33	60	2	10,400	3,300	12,000
Warrenton ECL - NC 58	0.3	20	100	2	8,100	3,300	12,000
NC 58 - Big Woods Rd. (SR 1332)	0.3	19	60	2	7,500	3,300	5,400
Big Woods Rd. (SR 1332) - Old Warrenton EPB	1.1	19	60	2	8,400	3,300	4,300
Old Warrenton EPB - Airport Rd. (SR 1325)	1.3	24	60	2	9,500	2,300	3,700
Airport Rd. (SR 1325) - US 158 (Macon)	1.8	24	60	2	9,500	1,800	2,900
<b>US 401</b>							
Franklin County Line - Lee Rd. (SR 1137)	1.5	20	60	2	9,300	1,900	6,400
Lee Rd. (SR 1137) - Afton	3.9	20	60	2	9,300	1,500	5,000
Afton - Old Warrenton SPB	3.5	20	60	2	9,300	1,700	5,700
Old Warrenton SPB - Warrenton SCL	1.4	20	60	2	9,200	2,500	3,800
Warrenton SCL - Plummer Street	0.4	26	60	2	10,400	2,500	13,000
Plummer Street - Macon Street	0.2	32	60	2+Parking	15,000	3,600	13,000
Macon Street - Warren Plains Rd. (SR 1305)	0.3	34	60	2+Parking	15,000	6,400	19,000
Warren Plains Rd. (SR 1305) - Harris Street	0.3	27	40	2	10,400	6,200	16,000
Harris Street - Ridgeway Rd. (SR 1107)	0.4	45	60	4	19,400	7,600	16,000
Ridgeway Rd. (SR 1107) - Warrenton NCL	0.3	45	60	4	19,400	7,400	16,000
Warrenton NCL - Tar Heel Tire Avenue	0.2	22	60	2	10,100	7,400	11,000
Tar Heel Tire Avenue - Old Warrenton NPB	0.7	22	80	2	10,100	7,400	11,000
Old Warrenton NPB - Old Norlina SPB	0.5	22	60	2	9,500	4,900	13,000
Old Norlina SPB - US 158 Bypass	0.7	22	80	2	10,100	4,900	11,000
US 158 Bypass - Norlina SCL	0.5	22	60	2	7,300	8,300	11,000
Norlina SCL - Terrell Street	0.7	21	60	2	8,700	7,000	21,000
Terrell Street - Hyco Street	0.2	34	60	2	9,800	7,000	24,000
Hyco Street - Rooker Street	0.2	21	60	2	8,700	4,100	18,000
Rooker Street - Norlina ECL	0.5	21	100	2	8,700	2,200	9,500
Norlina ECL - Weldon Rd. (SR 1319)	1.0	21	100	2	8,100	2,200	9,500
Weldon Rd. (SR 1319) - Old Norlina NPB	0.5	21	100	2	9,100	2,200	6,000
Old Norlina NPB - Beaverdam Rd. (SR 1213)	1.2	22	100	2	9,500	2,200	6,000
Beaverdam Rd. (SR 1213) - Dunn Rd. (SR 1212)	0.5	22	100	2	9,500	2,400	4,400
Dunn Rd. (SR 1212) - Young D E Rd. (SR 1303)	2.2	22	100	2	9,500	2,000	4,300
Young D E Rd. (SR 1303) - I-85	0.7	22	100	2	9,500	2,600	7,600
I-85 - NC/VA State Line	0.7	22	100	2	9,500	1,700	3,100
<b>NC 4</b>							
Halifax County Line - Halifax County Line	0.3	24	60	2	9,500	1,100	2,000
<b>NC 43</b>							
Halifax County Line - Hamlet Rd. (SR 1519)	1.7	20	60	2	9,300	900	2,400
Hamlet Rd. (SR 1519) - Gillis Alston (SR 1513)	2.3	20	60	2	9,300	1,900	4,800
Gillis Alston (SR 1513) - Marmaduke	4.3	20	60	2	9,300	1,600	4,000
Marmaduke - NC 58 (Liberia)	1.7	20	60	2	9,300	2,400	6,000
<b>NC 58</b>							
Franklin County Line - Inez	4.9	18	60	2	6,900	400	900
Inez - Creek	2.7	18	60	2	6,900	500	1,000
Creek - Will Check Rd. (SR 1608)	2.7	18	60	2	6,900	500	1,100
Will Check Rd. (SR 1608) - Liberia	1.0	18	60	2	6,900	600	1,300
Liberia - Old Warrenton SPB	3.3	18	60	2	6,900	2,400	5,200
Old Warrenton SPB - US 158 BUS	1.3	20	100	2	9,200	3,500	5,900
<b>NC 903</b>							
Halifax County Line - Epworth Rd. (SR 1352)	2.0	24	60	2	9,500	1,900	7,400
Epworth Rd. (SR 1352) - Eaton Ferry Rd. (SR 1344)	2.3	24	60	2	9,500	2,200	8,600

## Appendix C: Road Inventory not including CTP project proposals

**Table Key:**

DIST = distance

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(E,W,N,S) PB = (East, West, North, South) Planning Boundary

CL = City Limit

FACILITY & SECTION	Current Roadway Conditions						Estimated 2035 AADT
	DIST MI	RDWY FT	ROW FT	# of LANES	CURRENT CAPACITY (VPD)	2004 AADT	
Eaton Ferry Rd. (SR 1344) - Lynwood Rd. (SR 1409)	2.8	24	60	2	9,500	2,300	9,000
Lynwood Rd. (SR 1409) - Dove Manor Rd. (SR 1388)	0.5	24	60	2	9,500	2,900	11,000
Dove Manor Rd. (SR 1388) - Mill Creek Rd. (SR 1421)	0.5	24	60	2	9,500	1,800	7,000
Mill Creek Rd. (SR 1421) - NC/VA State Line	3.6	20	60	2	9,500	1,500	5,900
<b>SR 1001 (Dr. King Blvd.)</b>							
Vance County Line - Axtell	1.7	20	100	2	9,300	3,600	7,500
Axtell - Old Warrenton WPB	4.9	20	100	2	9,300	2,900	8,400
Old Warrenton WPB - DOT Main. Yard	1.2	20	100	2	9,900	4,400	6,800
DOT Main. Yard - Warrenton WCL	0.4	19	100	2	8,000	4,400	6,800
Warrenton WCL - Dameron Street	0.4	32	60	2	11,200	4,400	9,000
Dameron Street - US 401	0.3	26	60	2	11,200	4,400	9,000
<b>SR 1100 (Mason-Axtell Rd)</b>							
US 1 - King Blvd (SR 1001)	1.0	18	60	2	6,900	600	2,000
King Blvd (SR 1001) - Ray Frazier Rd. (SR 1125)	4.5	20	60	2	9,300	600	2,000
<b>SR 1101 (Kimball Rd)</b>							
US 1 - Mason-Axtell Rd. (SR 1100)	1.0	20	60	2	9,300	600	2,000
<b>SR 1107 (Ridgeway-Warrenton Rd)</b>							
US 158/US 401 - Warrenton WCL	0.1	21	60	2	9,900	1,200	2,900
Warrenton WCL - No Bottom Rd. (SR 1118)	0.7	21	60	2	10,400	1,200	2,900
No Bottom Rd. (SR 1118) - Old Warrenton WPB	0.7	21	60	2	10,400	1,200	2,000
Old Warrenton WPB - Old Norlina SPB	1.9	21	60	2	9,300	1,200	4,000
Old Norlina SPB - Jordan Rd. (SR 1143)	0.5	20	60	2	9,900	1,200	2,000
Jordan Rd. (SR 1143) - US 1/US 158	0.5	20	60	2	9,900	1,200	2,000
<b>SR 1111 (Crowders Pond Rd.)</b>							
Ridgeway-Warrenton Rd. (SR 1107) - End of Road	1.0	18	60	2	6,900	100	4,000
<b>SR 1116 (Perry Town Rd. Extension)</b>							
US 401 - King Blvd. (SR 1001)	1.7	18	60	2	6,900	300	4,000
King Blvd. (SR 1001) - No Bottom Rd. (SR 1118)	2.5	18	60	2	6,900	300	4,000
No Bottom Rd. (SR 1118) - End of Road	0.7	18	60	2	6,900	N/A	4,000
<b>SR 1125 (Tower Rd)</b>							
Mason-Axtell Rd. (SR 1100) - US 401	4.0	18	60	2	6,900	600	1,900
<b>SR 1134 (Vicksboro Rd)</b>							
US 401 - Vance County Line	3.3	20	60	2	9,300	1,700	5,700
<b>SR 1151 (Soul City Blvd.)</b>							
US 1/158 - Mason-Axtell Rd. (SR 1100)	1.2	24	60	2	9,500	300	2,000
<b>SR 1200 (Drewry Rd-Virginia Line)</b>							
Vance County Line - Ellington Rd. (SR 1219)	2.7	23	60	2	9,500	1,100	3,700
Ellington Rd. (SR 1219) - Kimball Point Rd. (SR 1204)	2.3	23	60	2	9,500	900	3,200
Kimball Point Rd. (SR 1204) - NC/VA. State Line	1.8	23	60	2	9,500	700	2,400
<b>SR 1208 (Kerr Lake/Cole Bridge Rd.)</b>							
Rooker Dairy Rd./Oine Rd. (SR 1210) - NC/VA. State Line	3.7	18	60	2	6,900	600	1,900
<b>SR 1210 (Rooker Dairy Rd./Oine Rd.)</b>							
Beaverdam Rd. (SR 1231) - Kerr Lake/Cole Bridge Rd. (SR 1208)	2.2	20	60	2	9,300	1,800	6,100

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FACILITY & SECTION	Current Roadway Conditions						Estimated 2035 AADT
	DIST MI	RDWY FT	ROW FT	# of LANES	CURRENT CAPACITY (VPD)	2004 AADT	
<b>SR 1213 (Beaverdam Rd.)</b>							
Rooker Dairy Rd./Oine Rd. (SR 1210) - Lewis Mustain Rd. (SR 1214)	1.7	18	60	2	6,900	800	2,700
Lewis Mustain Rd. (SR 1214) - US 1	1.7	20	60	2	9,300	800	2,700
<b>SR 1224 (Ridegway Rd)</b>							
Vance CL - I-85	2.3	20	60	2	9,300	400	1,300
I 85 - US 1	2.6	20	60	2	9,300	400	1,300
<b>SR 1231 (Oine Rd)</b>							
US 1/US 158 - White Rd. (SR 1232)	0.9	21	60	2	10,400	1,700	2,700
White Rd. (SR 1232) - Old Norlina NPB	0.7	21	60	2	10,400	1,700	2,700
Old Norlina NPB - St. Tammany Rd. (SR 1210)	0.1	24	60	2	9,500	1,600	5,400
<b>SR 1237 (Manson Rd)</b>							
I-85 - US 1	3.0	23	60	2	9,500	4,000	10,000
<b>SR 1300 (Pachall St)</b>							
US 1 - Warren Plains Rd. (SR 1305)	0.5	18	60	2	6,900	1,600	5,400
Warren Plains Rd. (SR 1305) - Cole Farm Rd. (SR 1304)	1.8	18	60	2	6,900	1,000	2,600
Cole Farm Rd. (SR 1304) - NC/VA State Line	1.7	18	60	2	6,900	400	900
<b>SR 1305 (Warren Plains Rd)</b>							
US 158 Business - Old Depot Road	0.3	29	60	2	11,200	4,000	11,000
Old Depot Roads - Warrenton NCL	0.2	29	60	2	11,200	4,000	11,000
Warrenton NCL - Elberta Lane	0.4	21	100	2	9,900	4,000	11,000
Elberta Lane - Airport Rd. (SR 1325)	0.4	21	60	2	9,900	4,000	11,000
Airport Rd. (SR 1325) - Old Warrenton NPB	0.3	21	60	2	9,300	4,000	5,900
Old Warrenton NPB - Old Norlina SPB	0.9	21	60	2	9,300	3,000	3,500
Old Norlina SPB - US 158	0.2	20	60	2	8,800	3,000	N/A
US 158 - Cooks Chapel Rd. (SR 1322)	0.5	20	60	2	8,800	1,400	N/A
Cooks Chapel Rd. (SR 1322) - Old Norlina NPB	0.2	19	60	2	8,100	200	N/A
<b>SR 1306 (Wise-Five Forks Rd)</b>							
US 1 - Oakville Rd. (SR 1309)	3.6	20	60	2	9,300	700	1,700
Oakville Rd. (SR 1309) - Church Hill Rd. (SR 1335)	2.3	18	60	2	6,900	700	1,700
<b>SR 1309 (Oakville Rd)</b>							
Wise-Five Forks Rd. (SR 1306) - US 158 BUS	5.3	22	60	2	9,500	0	2,700
<b>SR 1318 (Eaton Ferry Rd)</b>							
Eaton Ferry Rd. (SR 1345) - Eaton Ferry Rd. (SR 1344)	0.6	20	50	2	9,300	1,400	4,700
<b>SR 1325 (Airport Rd)</b>							
Warren Plains Rd. (SR 1305) - Old Warrenton EPB	0.9	19	60	2	8,100	1,200	2,000
Old Warrenton EPB - US 158 BUS	1.6	17	60	2	6,900	400	1,200
US 158 BUS -US 158	4.4	22	60	2	6,900	400	1,200
<b>SR 1335 (Church Hill Rd)</b>							
Wise-Five Forks Rd. (SR 1306) - US 158	7.4	20	60	2	9,300	400	1,100
<b>SR 1337 (Flemming Mill Rd)</b>							
Airport Rd. (SR 1335) - Eaton Ferry Rd. (SR 1344)	3.9	20	60	2	9,300	200	500
<b>SR 1344 (Eaton Ferry Rd)</b>							

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FACILITY & SECTION	Current Roadway Conditions						Estimated 2035 AADT
	DIST MI	RDWY FT	ROW FT	# of LANES	CURRENT CAPACITY (VPD)	2004 AADT	
Old Macon Hwy (SR 1318) - Nathaniel Macon Rd. (SR 1348)	3.3	20	60	2	9,300	1,400	6,400
Nathaniel Macon Rd. (SR 1348) - Happy Valley Rd. (SR 1367)	1.5	20	60	2	9,300	1,400	6,400
Happy Valley Rd. (SR 1367) - NC 903	1.0	20	60	2	9,300	1,400	6,400
<b>SR 1345 (Eaton Ferry Rd)</b>							
US 158 (Vaughan CL) - Old Macon Hwy (SR 1318)	0.1	16	60	2	6,900	700	2,200
<b>SR 1362 (Elams Rd)</b>							
NC 903 - Northampton Co. Line	2.8	22	100	2	9,500	2,600	8,800
<b>SR 1510 (Mat Nelson Rd)</b>							
US 158 - NC 43	6.4	20	60	2	9,300	200	600
<b>SR 1600 (Baltimore Rd)</b>							
Old Warrenton SPB - Parktown Rd. (SR 1625)	4.3	21	60	2	9,300	0	0
<b>SR 1613 (Shocco Springs Rd)</b>							
US 401 to Pete Harris Rd. (SR 1620)	4.4	20	60	2	9,300	1,900	4,800
<b>SR 1618 (Alert Rd)</b>							
Franklin County Line - US 401	0.2	18	60	2	6,900	800	2,700
<b>SR 1620 (Lick Skillet Rd)</b>							
US 401 - Shocco Springs Rd. (SR 1613)	2.9	19	60	2	6,900	1,900	4,800



# **Appendix D: Typical Transportation**

## **Cross Sections**





## Typical Transportation Cross Sections

Cross section requirements for roadways vary according to the capacity and level of service to be provided. Universal standards in the design of roadways are not practical. Each roadway section must be individually analyzed and its cross section determined based on the volume and type of projected traffic, existing capacity, desired level of service, and available right-of-way. Certain cross sections are typical for facilities on new location and where right-of-way constraints are not critical. For widening projects and urban projects with limited right-of-way, special cross sections should be developed that meet the needs of the project.

On all existing and proposed roadways delineated on the comprehensive transportation plan, adequate right-of-way should be protected or acquired for the recommended cross sections. In addition to cross section and right-of-way recommendations for improvements, **Appendix D** may recommend ultimate needed right-of-way for the following situations:

Roadways which may require widening after the current planning period, Roadways which are borderline adequate and accelerated traffic growth could render them deficient, and roadways where an urban curb and gutter cross section may be locally desirable because of urban development or redevelopment.

The typical cross sections described below are shown visually following the text descriptions.

### **A: Four Lanes Divided with Median**

Cross section "A" is recommended for freeways/expressways in rural areas. The minimum median width for this cross section is 46 feet, but a wider median is desirable. This cross section could apply to freeways or expressways.

### **B: Seven Lanes - Curb & Gutter**

Cross section "B" is typically not recommended for new projects. When the conditions warrant six lanes, cross section "D" should be recommended. Cross section "B" should be used only in special situations such as when widening from a five-lane section where right-of-way is limited. Even in these situations, consideration should be given to converting the center turn lane to a median so that cross section "D" is the final cross section. This cross section applies to other major thoroughfares.

### **C: Five Lanes - Curb & Gutter**

Typical for other major thoroughfares, cross section "C" is desirable where frequent left turns are anticipated as a result of abutting development or frequent street intersections.

### **D: Six Lanes Divided with Raised Median - Curb & Gutter**

**E: Four Lanes Divided with Raised Median - Curb and Gutter**

Cross sections "D" and "E" are typically used on expressways/boulevards where left turns and intersecting streets are not as frequent. Left turns would be restricted to a few selected intersections. The 16-ft median is the minimum recommended for an urban boulevard-type cross section. In most instances, monolithic construction should be utilized due to greater cost effectiveness, ease and speed of placement, and reduced future maintenance requirements. In certain cases, grass or landscaped medians result in greatly increased maintenance costs and an increase danger to maintenance personnel. Non-monolithic medians should only be recommended when the above concerns are addressed.

**F: Four Lanes Divided – Grass Median**

Cross section "F" is typically recommended for expressways/boulevards to enhance the urban environment and to improve the compatibility of expressways/boulevards with residential areas. A minimum median width of 24 ft is recommended, with 30 ft being desirable.

**G: Four Lanes - Curb and Gutter**

Cross section "G" is recommended for other major thoroughfares where projected travel indicates a need for four travel lanes but traffic is not excessively high, left turning movements are light, and right-of-way is restricted. An additional left turn lane would likely be required at major intersections. This cross section should be used only if the above criteria are met. If right-of-way is not restricted, future strip development could take place and the inner lanes could become de facto left turn lanes.

**H: Three Lanes - Curb and Gutter**

In urban environments, minor thoroughfares that are proposed to function as one-way traffic carriers would typically require cross section "H".

**I: Two Lanes – Curb and Gutter, Parking both sides****J: Two Lanes – Curb and Gutter, Parking one side**

Cross section "I" and "J" are usually recommended for urban minor thoroughfares since these facilities usually serve both land service and traffic service functions. Cross-section "I" would be used on those minor thoroughfares where parking on both sides is needed as a result of more intense development.

**K: Two Lanes - Paved Shoulder**

Cross section "K" is used in rural areas or for staged construction of a wider multilane cross section. On some minor thoroughfares or US/NC routes, projected traffic volumes may indicate that two travel lanes will adequately serve travel for a considerable period of time. For areas that are growing and that will require future widening, the full right-of-way of 100 ft should be required. In some instances, local ordinances may not allow the full 100 ft. In those cases, 70 ft should be

preserved with the understanding that the full 70 ft will be preserved by use of building setbacks and future street line ordinances.

#### **L: Six Lanes Divided with Grass Median**

Cross section "L" is typical for controlled access freeways/expressways. The 46-ft grass median is the minimum desirable width, but variation from this may be permissible depending upon design considerations. Right-of-way requirements are typically 228 ft or greater, depending upon cut and fill requirements.

#### **M: Eight Lanes Divided with Raised Median - Curb and Gutter**

Also used for controlled access freeways, cross section "M" may be recommended for expressway/boulevard going through major urban areas or for routes projected to carry very high volumes of traffic.

#### **Bicycle Cross Sections**

Cross sections B-1, B-2, B-3, B-4, and B-5 are typical bicycle cross sections. Contact the NCDOT Division of Bicycle and Pedestrian Transportation for more information regarding these cross sections.

#### **B-1: Four Lanes Divided with Wide Outside Lanes**

#### **B-2: Five Lanes with Wide Outside Lanes**

A widened outside lane is an effective way to accommodate bicyclists riding in the same lane with motor vehicles. With a wide outside lane, motorists do not have to change lanes to pass a bicyclist. The additional width in the outside lane also improves sight distance and provides more room for vehicles to turn onto the roadway. Therefore, on roadways with bicycle traffic, widening the outside lane can improve the capacity of that roadway. Also, by widening the outside lane by a few extra feet both motorists and bicyclists have more space in which to maneuver. This facility type is generally considered for use in urban, suburban, and occasionally rural conditions on roadways where there is a curb and gutter. Wide outside lanes can be applied to several different roadway cross sections.

#### **B-3: Bicycle Lanes on Collector Streets**

Bicycle lanes may be considered when it is desirable to delineate road space for preferential use by cyclists. Streets striped with bicycle lanes should be part of a connected bikeway system rather than being an isolated feature. Bicycle lanes function most effectively in mid-block situations by separating bicyclists from overtaking motor vehicles. Integrating bicyclists into complicated intersection traffic patterns can sometimes be problematic. Strip development areas, or roadways with a high number of commercial driveways, tend to be less suitable for bicycle lanes due to frequent and unpredictable motorist turning movements across the path of straight-through cyclists. Striped bike lanes can be effective as a safety treatment, especially for less-experienced bicyclists. Two-lane residential/collector streets with lower traffic volume, low-posted speed limit, adequate roadway width (for both bike lanes and motor vehicle travel lanes), and

an absence of complicated intersections are ideal for bicycle use. A median-divided multi-lane roadway with lower traffic volumes and a low volume of right and left turning traffic would be a more appropriate location for bicycle lanes than a high traffic volume undivided multi-lane roadway with a continuous center turn lane. Most bicyclists will choose a route that combines direct access with lower traffic volumes. An origin and destination of less than 4 miles is desirable to generate usage on a facility.

#### **B-4: Wide Paved Shoulders**

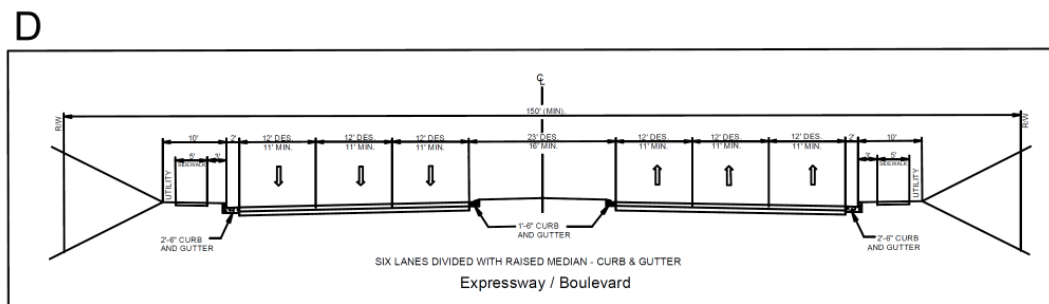
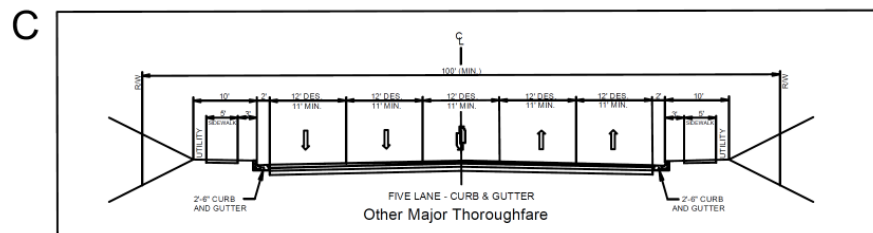
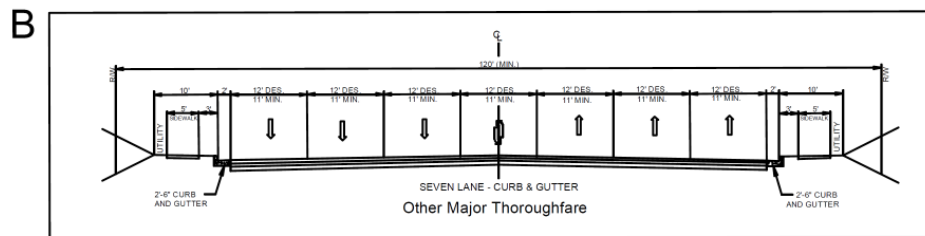
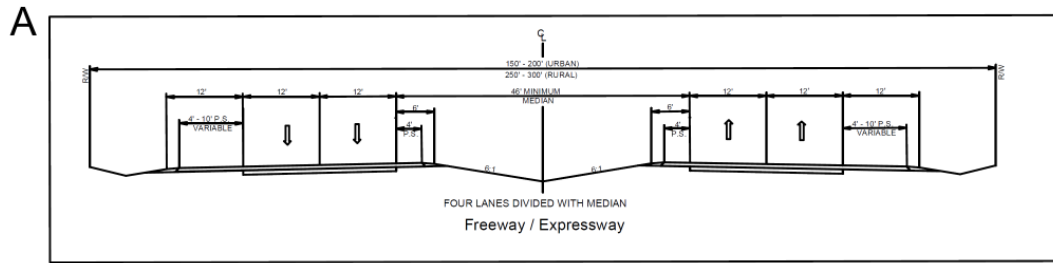
On urban streets with curb and gutter, wide outside lanes and bicycle lanes are usually the preferred facilities. Shoulders for bicycle use are not typically provided on roadways with curb and gutter. On rural roadways where bicycle travel is common, such as roads in coastal resort areas, wide paved shoulders are highly desirable. On secondary roadways without curb and gutter where there are few commercial driveways and intersections with other roadways, many bicyclists prefer riding on wide, smoothly paved shoulders.

#### **General**

The urban curb and gutter cross sections all illustrate the sidewalk adjacent to the curb with a buffer such as a utility strip or landscaping between the sidewalk and the minimum right-of-way line. This permits adequate setbacks for the safety of the pedestrians while providing locations for utilities. If it is desired to move the sidewalk farther away from the street to provide additional separation for pedestrians or for aesthetic reasons, additional right-of-way must be provided to insure adequate setbacks for the pedestrian's safety was accomplished while providing locations for utilities.

The right-of-way shown for each typical cross section is the minimum amount required containing the street, sidewalks, utilities, and drainage facilities. Cut and fill requirements may require either additional right-of-way or construction easements. Obtaining construction easements is becoming the more common practice for urban transportation construction.

# TYPICAL HIGHWAY CROSS SECTIONS

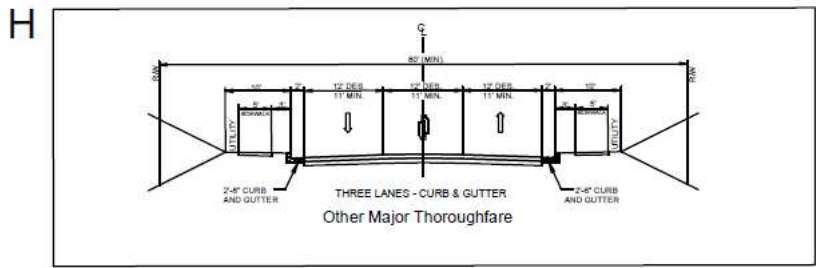
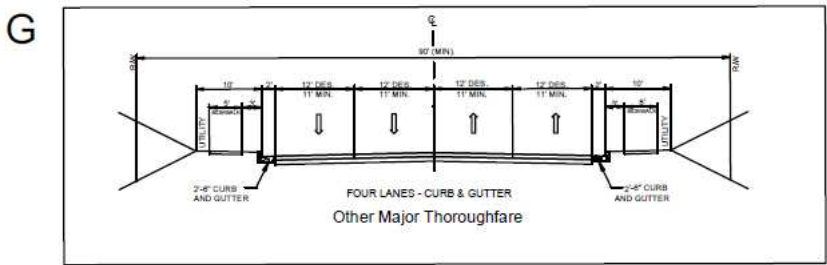
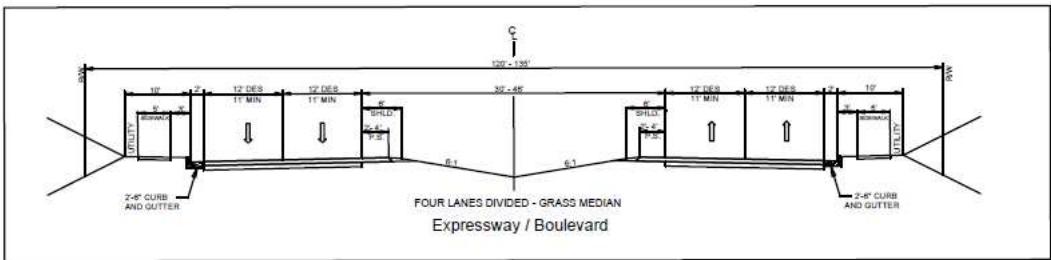
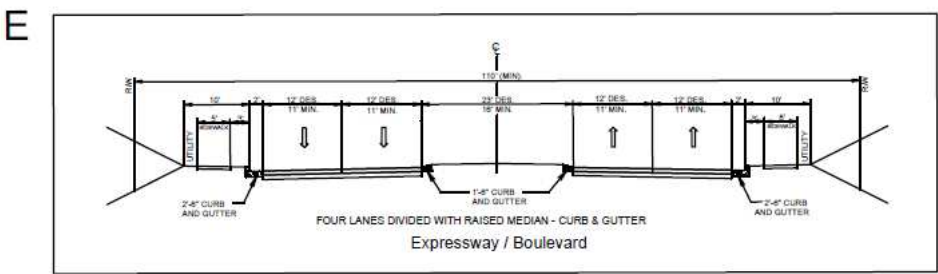


D-1

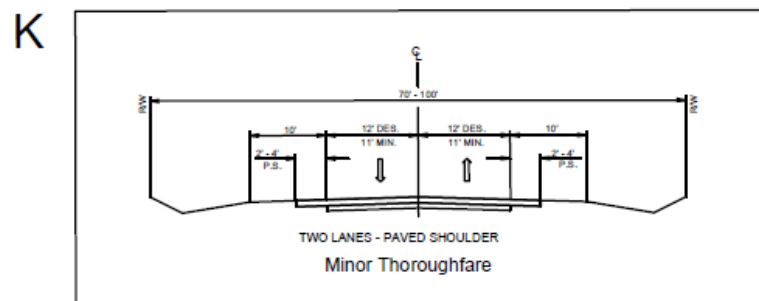
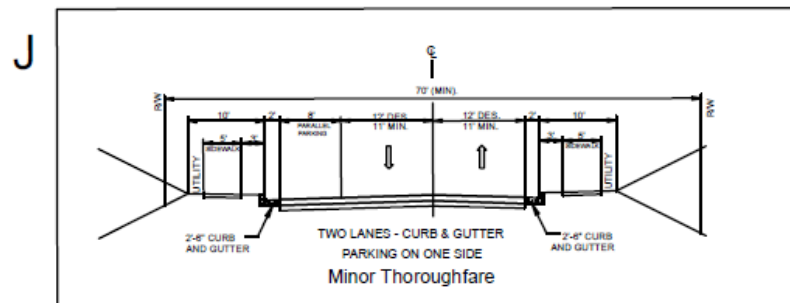
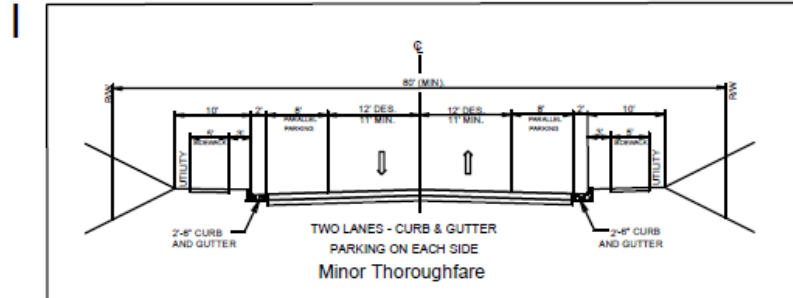
revised 04-01-05



TYPICAL HIGHWAY CROSS SECTIONS

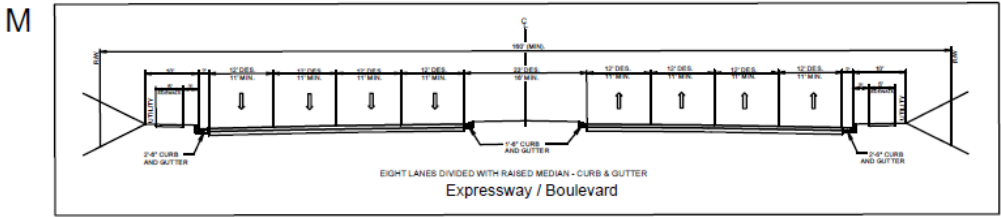
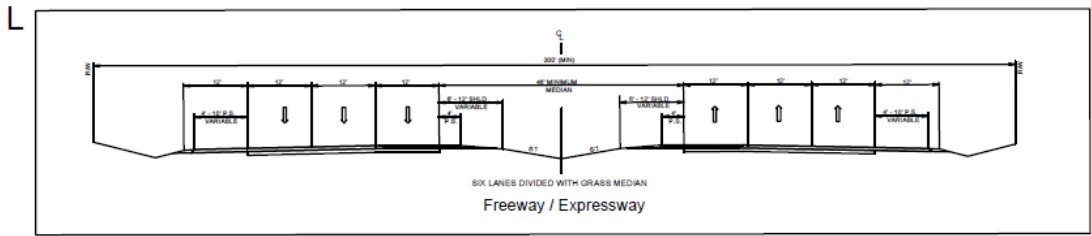


# TYPICAL HIGHWAY CROSS SECTIONS



D-3

# TYPICAL HIGHWAY CROSS SECTIONS

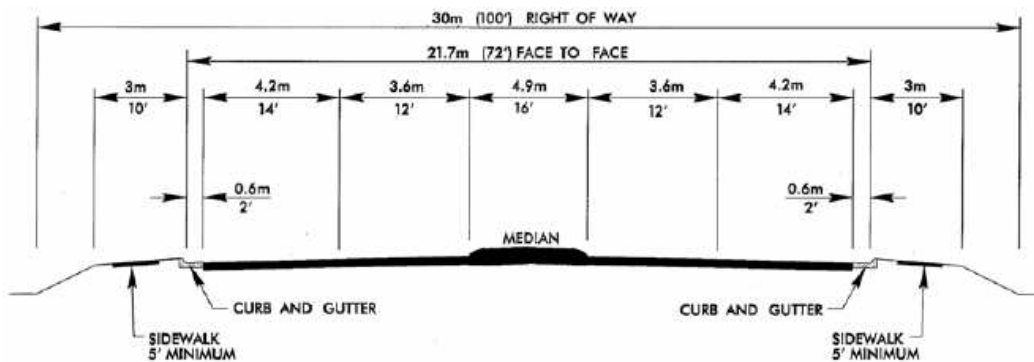


## Typical Bicycle Cross Sections

### WIDE CURB LANES

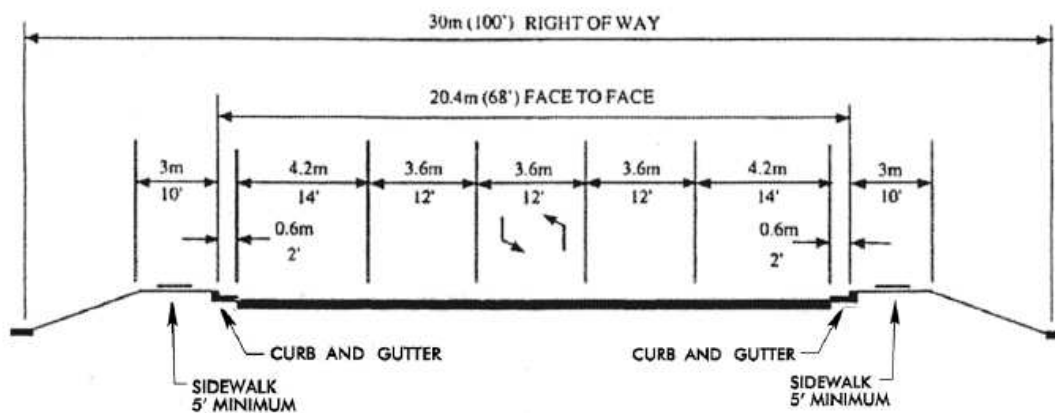
#### B-1 4-LANE MEDIAN DIVIDED TYPICAL SECTION

With Wide Outside Lanes



#### B-2 5-LANE TYPICAL SECTION

With Wide Outside Lanes

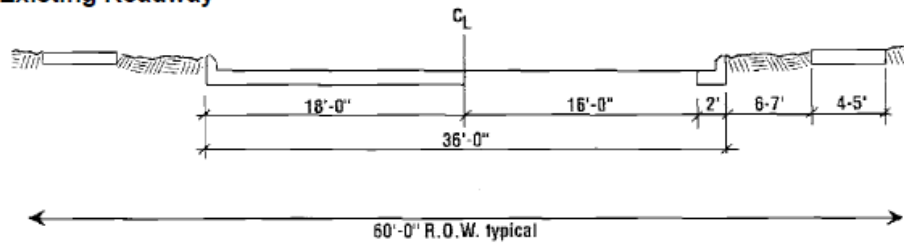


D-5

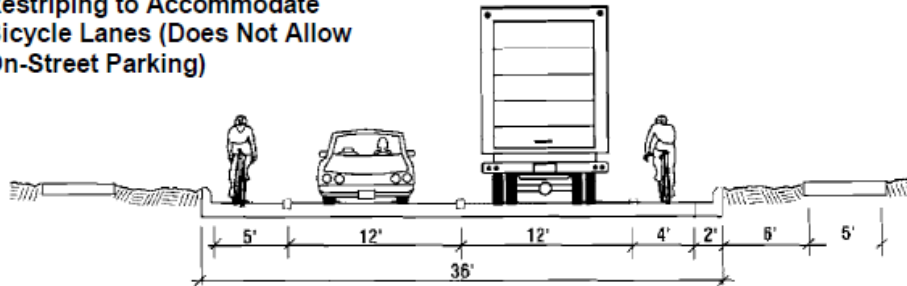
## Typical Bicycle Cross Sections

### B-3 BICYCLE LANES ON COLLECTOR STREETS

Existing Roadway



Restriping to Accommodate  
Bicycle Lanes (Does Not Allow  
On-Street Parking)



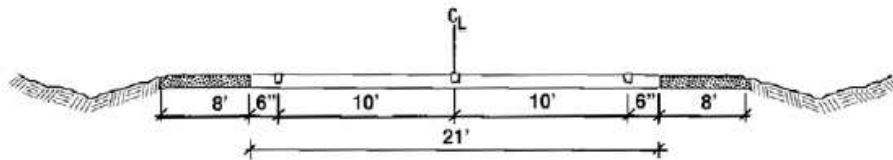
D-6

## Typical Bicycle Cross Sections

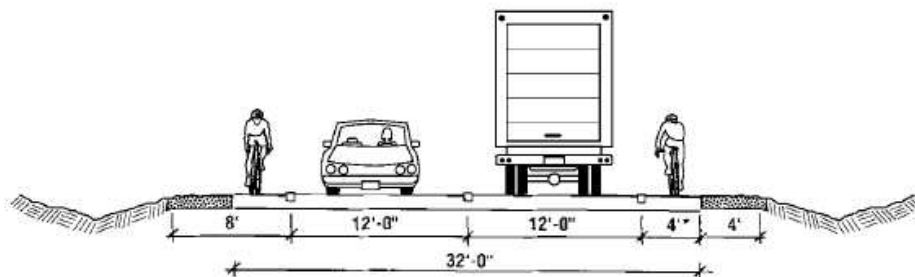
B-4

### WIDE PAVED SHOULDERS

Existing Roadway



Roadway Retrofitted with  
4-Ft Paved Shoulders

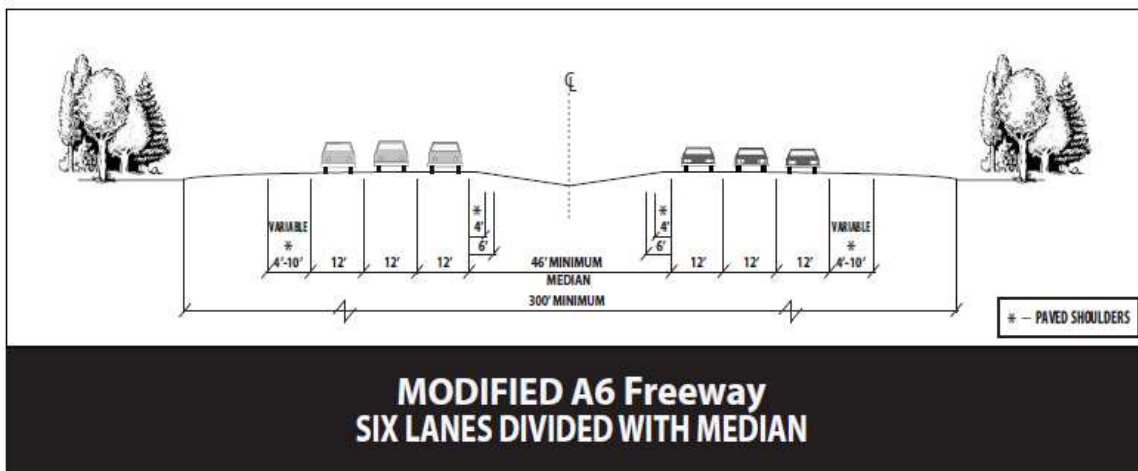


\* If speeds are higher than 40 mph,  
shoulder widths greater than 4' are  
recommended.

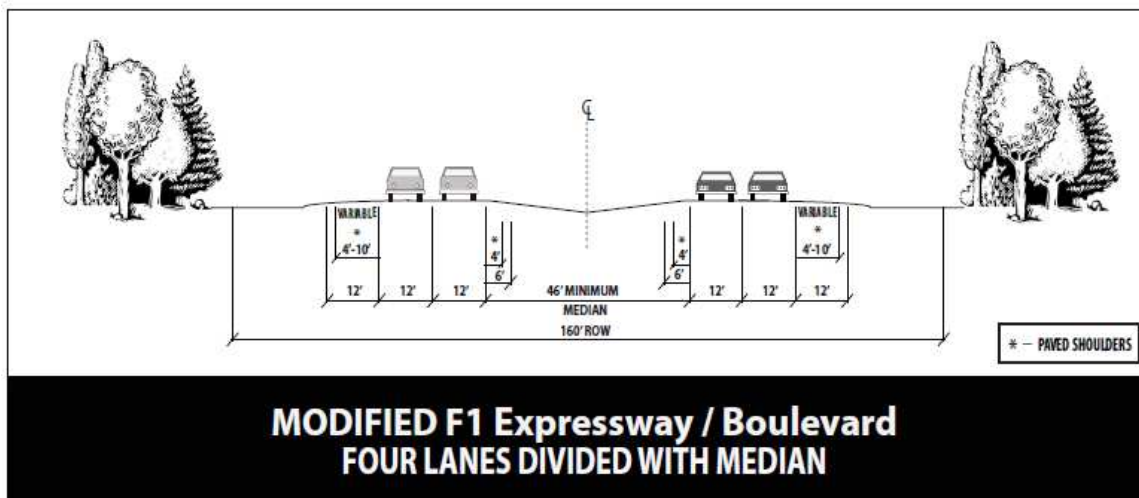
D-7



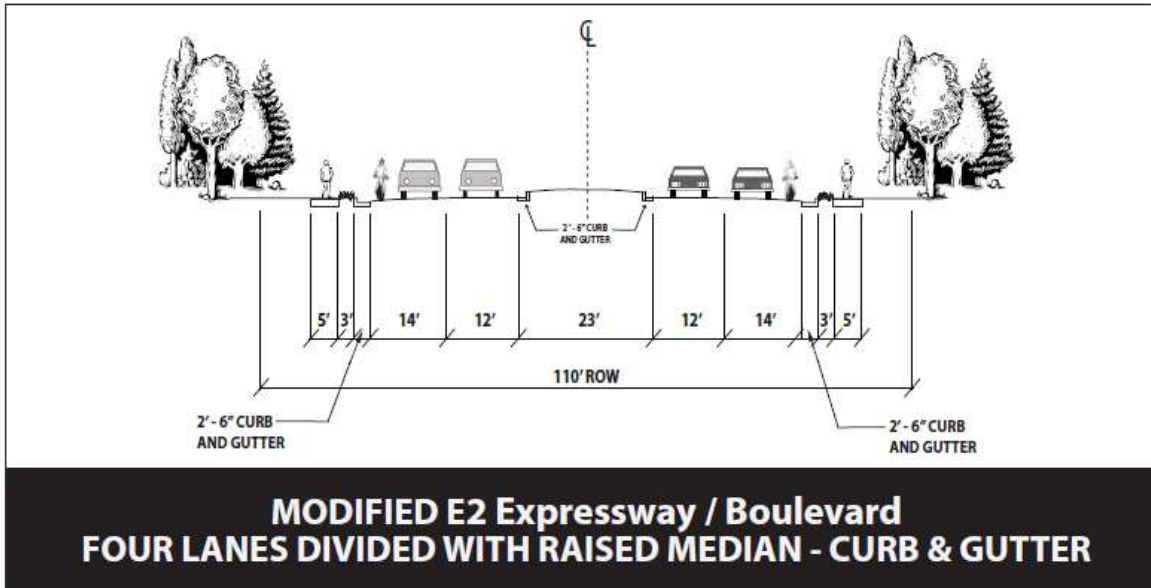
**A6 (Freeway):** Six-lane divided highway in rural area with fully controlled access and 46' minimum median. ROW 300' minimum.



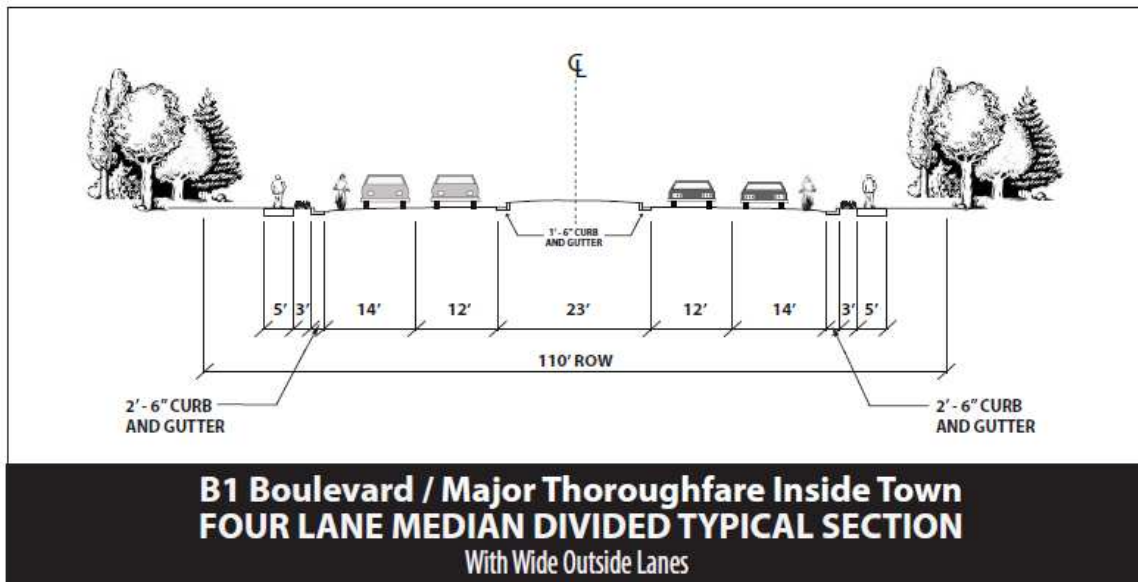
**Modified F1 (Expressway/Boulevard):** Four-lane divided with 46' median. Partially controlled access 160' ROW.



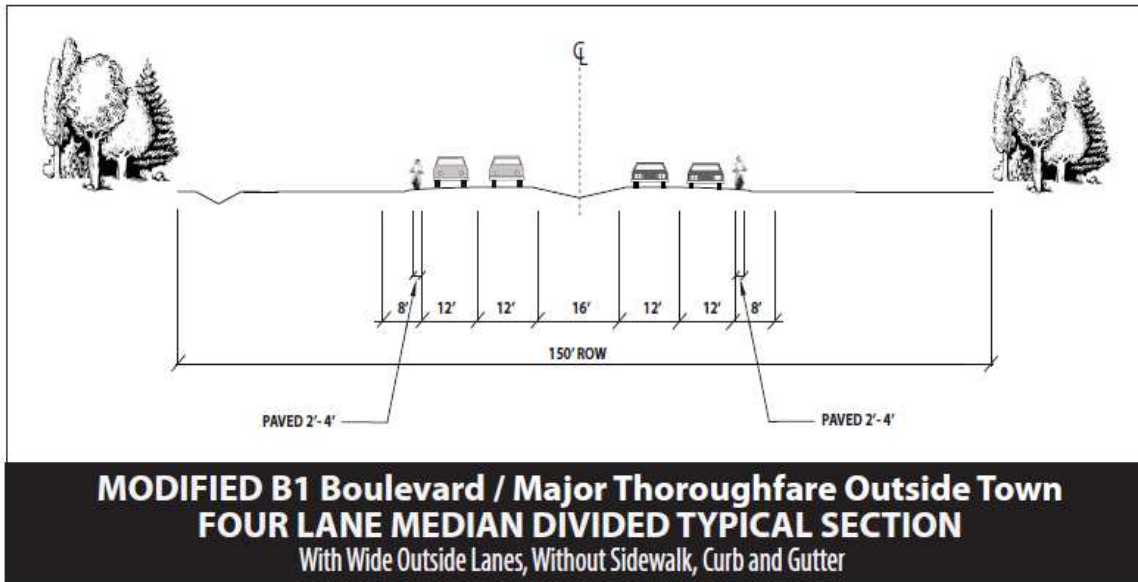
**Modified E-2 (Expressway/Boulevard):** Four-lane divided with Raised Median and Curb and Gutter with minimum 16' median (23' Median Recommended). Partially controlled access. 110' ROW



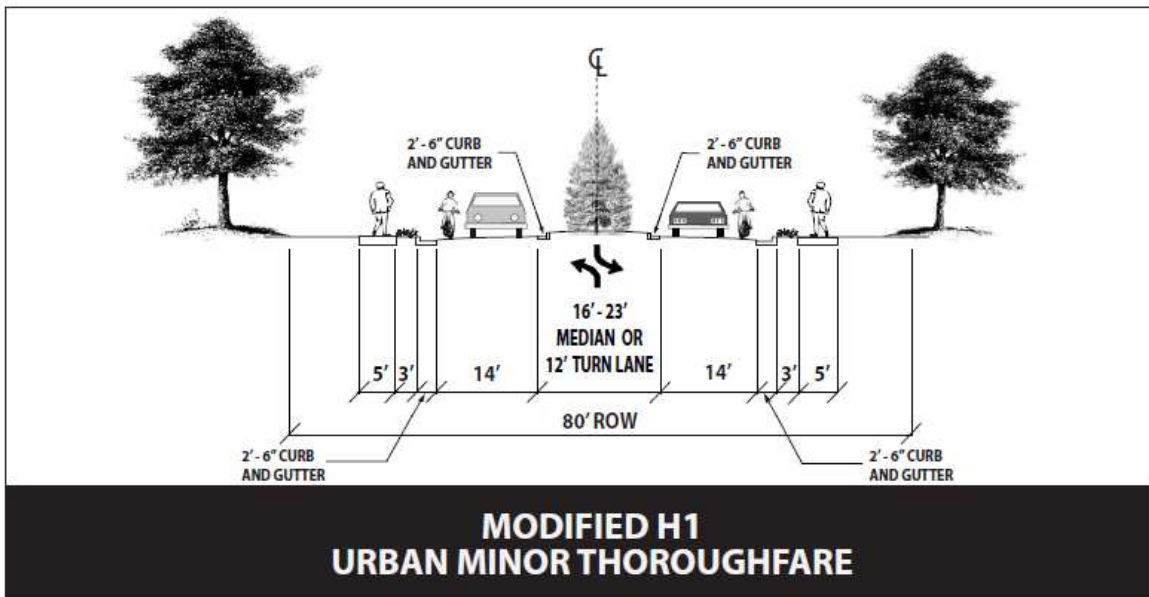
**B1 (Boulevard / Major Thoroughfare Inside Town):** Four-lane divided with Raised Median and Curb and Gutter and 16-ft median (23' Median Recommended). 110' ROW



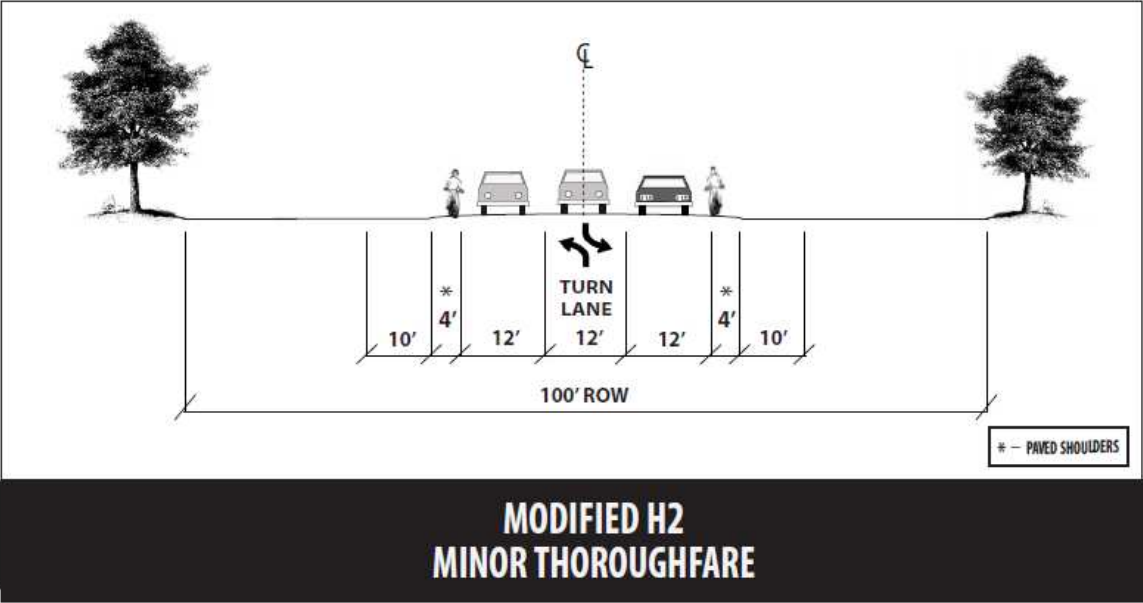
**Modified B-1 (Boulevard / Major Thoroughfare Outside Town):** Four-lane Divided with Median. No curb and gutter. 150' ROW



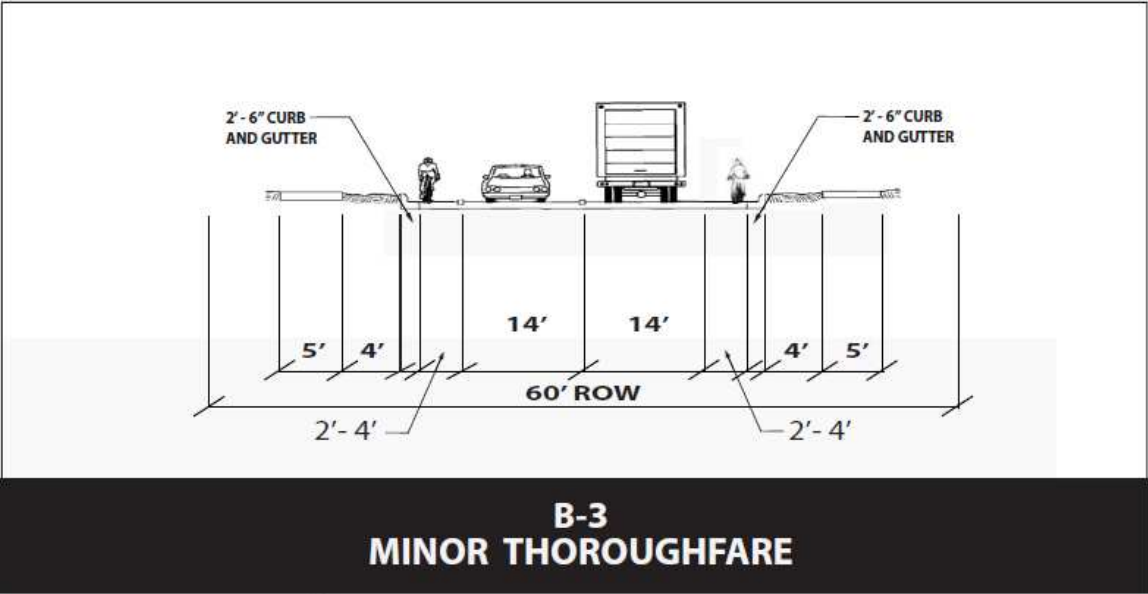
**Modified H-1 (Minor Thoroughfare Inside Town):** Two-lane Highway with 12' center turning lane or with 16'-23' Median with sidewalk and curb and gutter. 80' ROW



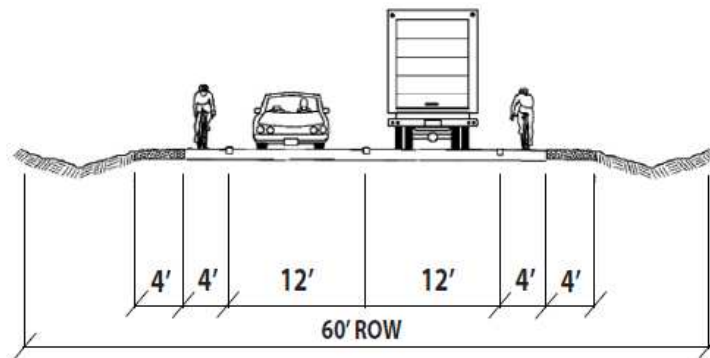
**Modified H-2 (Minor Thoroughfare Outside Town):** Two to Three-Lane Highway with Center turn lane where necessary with Paved Shoulders. 100' ROW



**B-3 (Minor Thoroughfare):** Two-lane with curb and gutter and sidewalks. 60' ROW



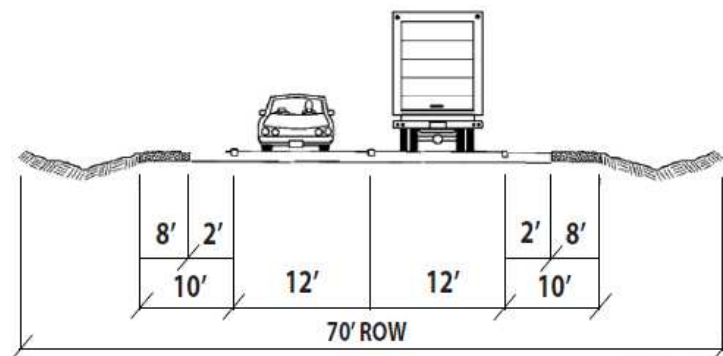
**B-4 (Minor Thoroughfare):** Two-lane with paved shoulders. 60' ROW



8' Shoulders are recommended.

### **B-4 MINOR THOROUGHFARE**

**K (Minor Thoroughfare):** Two-lane with paved shoulders. 70' ROW



2' Min paved shoulders.  
8' Shoulders are recommended.

### **K MINOR THOROUGHFARE**

## **Appendix E: Definitions of Environmental Status Codes**





## Definitions of Environmental Status Codes: Natural Heritage Program Plant List\*

<u>North Carolina Status</u>	<u>Description</u>
<b>E    Endangered</b>	“Any species or higher taxon of plant whose continued existence as a viable component of the States flora is determined to be in jeopardy” (GS 19B 106: 202.12). (Endangered species may not be removed from the wild except when a permit is obtained for research, propagation, or rescue that will enhance the survival of the species).
<b>T    Threatened</b>	“Any resident species of plant which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range” (GS 19B 106: 202.12). (Regulations are the same as for Endangered Species).
<b>SC   Special Concern</b>	“Any species of plant in North Carolina which requires monitoring but which may be collected and sold under regulations adopted under the provisions of [the Plant Protection and Conservation Act]” (GS 19B 106: 202.12). (Special Concern species which are not also listed as Endangered or Threatened may be collected from the wild and sold under specific regulations. Propagated material only of Special Concern species which are also listed as Endangered or Threatened may be traded or sold under specific regulations.)
<b>C    Candidate</b>	Species which are very rare in North Carolina, generally with 1-20 populations in the state, generally substantially reduced in numbers by habitat destruction (and sometimes also by direct exploitation or disease). These species are also either rare throughout their ranges (fewer than 100 populations total) or disjunct in North Carolina from a main range in a different part of the country or world. Also included are species which may have 20-50 populations in North Carolina, but fewer than 50 populations worldwide. These are species which have the preponderance of their distribution in North Carolina and whose fate depends largely on their conservation here. Also included are many species known to have once occurred in North Carolina but with no known extant occurrences in the state (historical or extirpated species); if these species are relocated in the

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\* Natural Heritage Program List of the Rare Plants of North Carolina. U. S. Fish and Wildlife Service 1990 (with amendments 1993).

state, they are likely to be listed as Endangered or Threatened. If present land use trends continue, candidate species are likely to merit listing as Endangered or Threatened.

**SR Significantly Rare** Species which are very rare in North Carolina, generally substantially reduce in numbers by habitat destruction (and sometimes also by direct exploitation or disease). These species are generally more common somewhere else in their ranges, occurring in North Carolina peripherally to their main ranges, mostly in habitats which are unusual in North Carolina. Also included are some species with 20-100 populations in North Carolina, if they also have only 50-100 populations rangewide and are declining.

**W Watch List** Any other species believed to be rare and of conservation concern in the state but warranting active monitoring at this time.

**P Proposed** A species which has been formally proposed for listing as Endangered, Threatened, or Special Concern, but has not yet completed the legally mandated listing process.

**United States Status**  
**E Endangered**

**Description**

A taxon "which is in danger of extinction throughout all or a significant portion of its range" (Endangered Species Act, Section 3).

**T Threatened** A taxon "which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range" (Endangered Species Act, Section 3).

**C1 Candidate 1** "Taxa for which the [Fish and Wildlife] Service has on file enough substantial information on biological vulnerability and threat(s) to support proposals to list them as Endangered or Threatened. Development and publication of proposed rules on these taxa are anticipated; however, because of the large number of Category 1 taxa, it will take several years to clear the backlog."

**C2 Candidate 2** "Taxa for which there is some evidence of vulnerability, but for which there are not enough data to support listing proposals at this time... Further biological research and field study usually will be necessary to ascertain the status of [these taxa]... It is likely that some category 2 candidates will not warrant listing, while others will be found to be in

greater danger of extinction than some taxa in category 1.”

- 3A Candidate 3a** “Taxa for which the Fish and Wildlife Service has persuasive evidence of extinction. If rediscovered, such taxa might acquire high priority for listing.”
- 3B Candidate 3b** “Names that, on the basis of current taxonomic understanding ... do not represent distinct taxa...”
- 3C Candidate 3c** “Taxa that have proven to be more abundant or widespread than previously believed and/or those that are not subject to any identifiable threat. If further research or changes in habitat indicate a significant decline in any of these taxa, they may be reevaluated for possible inclusion in categories 1 or 2.
- P Proposed** “Taxa already proposed to be listed as” endangered or threatened. Taxa formally proposed as endangered or threatened receive some legal protection. Species listed as proposed candidates are species which are in the process of being added to the federal candidate list.

**\* Possibly Extinct** Taxa with no known extant occurrences.

### **Bald and Golden Eagle Protection Act (BGPA):**

In the July 9, 2007 Federal Register( 72:37346-37372), the bald eagle was declared recovered, and removed (de-listed) from the Federal List of Threatened and Endangered wildlife. This delisting took effect August 8,2007. After delisting, the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668-668d) becomes the primary law protecting bald eagles. The Eagle Act prohibits take of bald and golden eagles and provides a statutory definition of "take" that includes "disturb". The USFWS has developed National Bald Eagle Management Guidelines to provide guidance to land managers, landowners, and others as to how to avoid disturbing bald eagles. For mor information, visit <http://www.fws.gov/migratorybirds/baldeagle.htm>